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ARLS

focused growth



organic

strategic growth

marketing growth

revenue growth

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THOMSON
FINANCIAL

technological growth

grow

positioned for global growth

Ferro is a leading producer of performance materials sold to a broad range of manufacturers serving diverse markets throughout the world. The Company is a worldwide leader in the production of electronic materials for passive components used in the manufacture of multilayer capacitors. Ferro is among the world's largest suppliers of ceramic glaze and colors, porcelain enamel coatings, and specialty glass and colorants. In the United States, Ferro holds strong market positions in polymer additives and specialty plastic compounds and colorants. Ferro materials enhance the performance of products in a variety of end markets, including consumer electronics, telecommunications, pharmaceuticals, building and renovation, appliances, transportation, household furnishings, and industrial products.

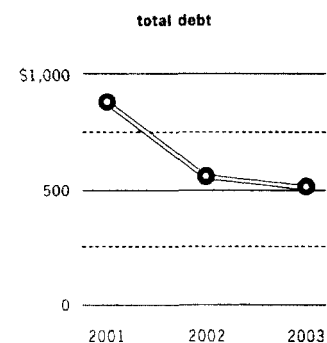
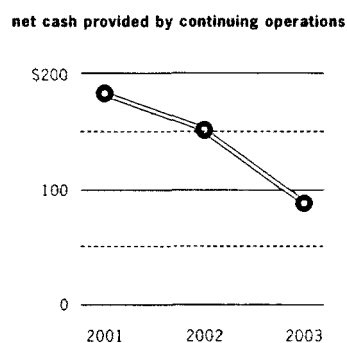
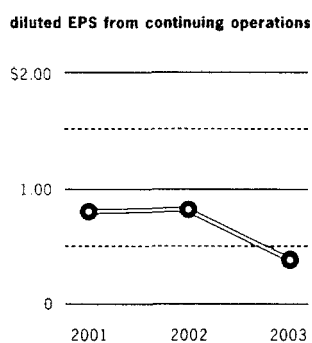
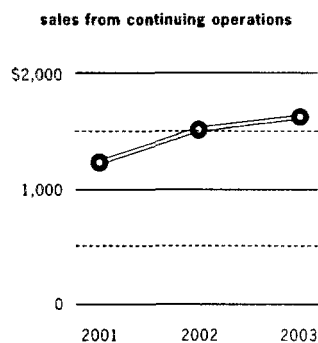
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SYNERGISTIC BUSINESSES positioned for *global growth*

Business Segment	Business Units	Products	Key Markets	Locations
Coatings	Electronic Material Systems	Electronic and specialty glasses, ceramic dielectric powders, pastes, powders and tapes for thick film, surface finishing compounds	Electronics, telecommunications, computers, automotive, ophthalmic lenses/precision optics, military and defense, aerospace	North America, Europe, Asia-Pacific
	Color and Glass Performance Materials	Inorganic pigments, hearth color, glass decorating enamels, specialty glazes, precious metal preparations	Paint and plastics, glass packaging, tableware, fine china, roof tile, appliances, automotive, architectural	North America, Europe, Asia-Pacific, Latin America
	Tile Coating Systems	Ceramic glaze coatings, ceramic colors, decorative materials and application systems	Tile, sanitary ware	North America, Europe, Asia-Pacific, Latin America
	Porcelain Enamel	Porcelain enamel coatings	Appliances, cookware, sanitary ware, architectural, industrial	North America, Europe, Asia-Pacific, Latin America
Performance Chemicals	Pharmaceuticals and Fine Chemicals	High-potency active pharmaceutical ingredients, low endotoxin carbohydrates, large volume parenterals, food additives, dietary supplements, electrolytes, glymes, phosphine derivatives	Pharmaceutical, biotechnology, food, electronics, industrial	North America, Europe, Asia-Pacific
	Polymer Additives	Heat and light stabilizers, plasticizers, plastic lubricants	Household furnishings, automotive, industrial, architectural, construction	North America, Europe, Asia-Pacific
	Specialty Plastics	Filled and reinforced thermoplastics, polyolefin alloys, thermoplastic elastomers/process melt, color concentrates/masterbatch, gelcoats, liquid and paste color dispersions	Appliances, automotive, household furnishings, recreation, industrial, lawn and garden, pool and spa, packaging, boats, RVs and trucks, sanitary ware, architectural	North America, Europe, Asia-Pacific

FINANCIAL *highlights* (dollars in millions except EPS data)



To Our Shareholders



DURING THE PAST YEAR we continued to reposition Ferro in line with *the objectives of our LEADERSHIP AGENDA STRATEGY*. Since instituting the *Leadership Agenda* in 1999, we have re-balanced the portfolio and **SHIFTED TOWARD HIGHER GROWTH, TECHNOLOGY-BASED BUSINESSES**.

Consistent with the Leadership Agenda's vision, we have used the cash generated from world leadership positions in our traditional industrial-based businesses to invest and diversify into businesses with a higher growth profile, such as Electronic Materials and Pharmaceuticals and Fine Chemicals. These high growth businesses today represent nearly one-third of our Company and are delivering at their expected growth rates.

In 2003, we successfully completed integration of the dmc² businesses, divested several small non-core businesses, improved our cost position and reduced debt. Since the dmc² acquisition in September 2001, we have realized well in excess of \$35 million in cost savings from restructuring and consolidation actions, generated over \$200 million in free cash flow by reducing working capital from approximately 30 percent of sales to 15 percent, and cut our debt-to-total capital ratio from 76 percent to 50 percent. In addition, we have made considerable improvements in our safety performance by bringing the acquired facilities in line with Ferro's health, safety and environmental standards, which are meant to provide a clean, safe and healthy work environment for all employees. All of this has been accomplished despite persistent challenging economic conditions. This Annual Report, titled *Positioned for Global Growth*, highlights how these and other strategic initiatives have prepared the Company for revenue and earnings growth in an improving economy.

TRANSFORMATION We have succeeded in transforming Ferro into a high-technology content specialty materials company through our Leadership Agenda strategies of portfolio management, acquisitions and geographic expansion. We challenge our businesses to attain critical mass, sustainable competitive advantages and global scope. Electronic Materials has grown into a core business that is the world's leading supplier of materials for multilayer ceramic capacitors for the electronics industry. Color and Glass Performance Materials has expanded and achieved the number one global market position, serving customers in industries as diverse as beverage packaging, automotive and architectural materials.

In 2003, we took further actions to improve the growth profile of the Company by divesting our Petroleum Additives and Structural Ceramics businesses. We have reached a desired balance with approximately one-third of our businesses in the categories of Foundation (growth equal to GDP), Platform (1 ½ to 2 times GDP growth) and Springboard (multiples of GDP growth). Given the current balance and diversity reached in our portfolio, we are focusing our efforts on organic growth. Acquisitions will continue to play a role going forward, but will primarily be bolt-on additions that complement our technologies or increase our businesses' geographic reach.

Our Springboard businesses have turned the corner and are now delivering at their expected organic growth rates. Electronic Materials is benefiting from the global rebound in the electronics market while the value-added niche strategy in our Pharmaceuticals and Fine Chemicals business generated double-digit revenue and earnings growth in 2003. These businesses will be the focal point of our investments going forward. We are currently funding new product development that leverages existing surface application capabilities and nanotechnology that will provide new growth opportunities in the electronics market over the next several years. In Pharmaceuticals and Fine Chemicals, we will accelerate geographic growth into China to support demand opportunities in electrolytes for the fast-growing rechargeable battery market, and we have expanded facilities at Ferro Pfanstiehl to capitalize on rapid growth in the development and manufacture of high potency drugs to combat cancer and AIDS.

Our execution of the Leadership Agenda has positioned Ferro for global growth. Acquisitions have strengthened our global cost position to better serve our tile, color and glass customers; and we are successfully leveraging our geographic scope to increase market positions for

electronic materials, fine chemicals and polymer additives. We will continue to focus our expansion efforts on the high-growth Asia-Pacific region, which offers an expanding middle-class population and relatively stable currencies and political systems. We have increasingly placed less emphasis on Latin America, which has decreased to approximately three percent of our revenue base, due to the region's long-term economic and political instability.

TECHNICAL STRENGTH Over the past several years, Ferro has invested in technology at an increasing rate with a firm belief it is a key element in our organic growth objectives. The acquisitions we have made were carefully selected for technologies that gave Ferro entry into higher growth markets or those that complemented Ferro's existing base of intellectual property. Important additions include current good manufacturing practice (CGMP) from Pfanstiehl Laboratories, elastomer expertise from Advanced Polymer Alloys and base metal technology for multilayer ceramic capacitors from TAM Ceramics. The dmc² acquisition brought new precious metal preparations technology for glass decorating and added to the technical capabilities of our electronics, color and glass and tile businesses.

Ferro's core technologies – formulation, particle development and engineering, surface application, color science and glass science – link our diversified businesses and provide the foundation for their core competencies. Technology is managed at a global level and is aligned with the strategic and operational needs of each business. In 2003, we created an internal Technology Leadership team to leverage our technical capabilities across businesses and regions in order to develop innovative market applications that target value-added opportunities. In addition, in 2002 a Technology Strategy Committee was established at the Board of Directors level to deal specifically with strategic technology issues.

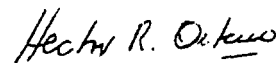
To symbolize the role of technology in our strategic direction, we recently renamed our largest research and development facility the Posnick Center of Innovative Technology in honor of Adolph "Ad" Posnick, retired chairman and CEO who committed his entire half-century career to Ferro. As an engineer, he developed innovative technologies that are the basis for a number of current and future Ferro products; as CEO, he led the Company's growth in net sales from \$375 million to \$1.1 billion. Our wealth of technical expertise will continue his legacy and will play a key role in our ability to achieve our global growth objectives.

OUTLOOK We are cautiously optimistic regarding the timing and rate of a sustainable economic recovery. The Asia-Pacific region is expected to maintain its robust growth and the North American market is off to a good start in early 2004. Conditions are improving in some of our key end markets, particularly electronics. We do face short-term challenges, which include a lagging economic recovery in Europe and several unresolved geo-political events that have negatively impacted the global economy in the recent past. In addition, we have experienced increased raw material costs for several of our businesses. We continue to take actions to improve our cost structure and have implemented price increases and surcharges where appropriate.

In 2004, we will benefit from measures taken over the past two and one-half years to significantly reduce our cost base. We will continue to focus on generating free cash flow and reducing debt levels, and we will remain disciplined in our efforts to manage discretionary spending and working capital levels. We are encouraged given the trends we are seeing early in the year and expect increased volumes for most of our product lines.

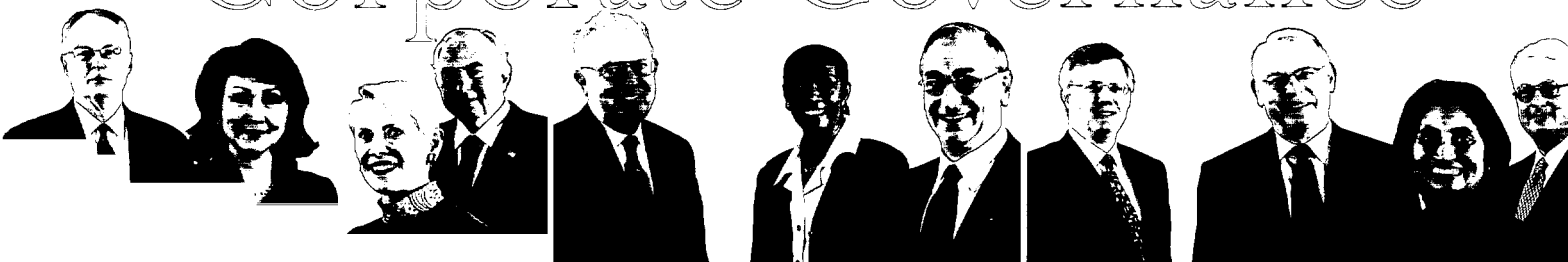
Now that Ferro is effectively positioned for global growth, we will harness our technical synergies and the talents of all of our employees to accelerate the process of developing new products to meet emerging needs. Our use of strategic marketing is helping us identify niche opportunities where our innovation can bring maximum value to our customers.

My thanks to our employees, who have labored to achieve Ferro's successes amidst the past year's difficulties; to our suppliers, who have partnered with us in controlling costs; to our customers, who trust in our ability to provide solutions; and to our shareholders, to whom we are responsible. Your continuing support has been critical in positioning Ferro for global growth.



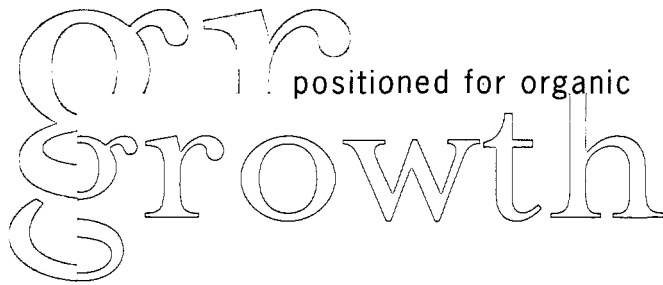
Hector R. Ortino
Chairman and Chief Executive Officer

Corporate Governance



FERRO'S GROWTH AND EVOLUTION has been built on the *cornerstone of a commitment to responsible governance* of the Corporation. We have long followed, both formally and informally, corporate governance principles designed to assure that our Board, through its membership, composition, and committee structure, is able to provide informed, competent and independent oversight.

With the enactment of the Sarbanes-Oxley Act and other developments in corporate governance, the Board has reviewed our corporate governance policies and committee charters. In the past year, we have instituted additional



Since adopting the Leadership Agenda in 1999, Ferro has used acquisitions and geographic expansion to create a portfolio with a higher growth profile. Our goal is to have approximately one-third of our businesses in each of the following categories:

SPRINGBOARD businesses that represent the greatest opportunity for long-term growth {Electronic Material Systems, Pharmaceuticals and Fine Chemicals}

PLATFORM businesses that have the capability to grow at 1-1/2 to 2 times GDP {Color and Glass Performance Materials, Polymer Additives, Specialty Plastics}

FOUNDATION businesses with overall growth opportunities close to GDP growth rates {Tile Coating Systems, Porcelain Enamel}

The Foundation businesses require less investment and generate free cash flow used to fund opportunities within our Springboard businesses. The Platform businesses should be self-sufficient, generating ample free cash flow to support their own investment opportunities.

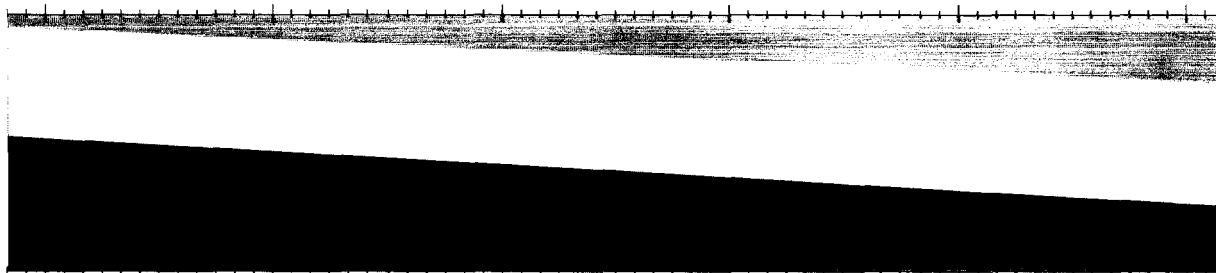
Having nearly achieved the goal of portfolio balance, the Company implemented initiatives in 2003 that are designed to foster profitable organic growth.

OUR LEADERSHIP AGENDA STRATEGIES *of portfolio management,*
acquisitions and geographic expansion have transformed Ferro into a
TECHNOLOGY-BASED SPECIALTY MATERIALS COMPANY.



1998

2003



These initiatives – discussed in the following pages – include geographic expansion, core technology management, operational excellence and strategic marketing. Their combined dynamics enable Ferro to capitalize on the growth potential that the Leadership Agenda envisioned.



global growth

The Leadership Agenda calls for Ferro's businesses to have sustainable competitive advantages, critical mass and to be global in scope. Today, the Company holds global market leadership positions in electronic materials, color and glass products, porcelain enamel and tile coating systems.

Ferro sells its products to manufacturers in over 30 industries located in more than 100 countries. This diversified geographic and customer base provides growth opportunities and buffers against certain industry cycles and regional issues. Slightly more than half of our revenues are from our foreign operations' sales; to support our global customers, Ferro has operations in over 70 facilities in 20 countries.

In 2003, we continued our focus on Asia due to its high growth and generally stable political and economic conditions. Asian manufacturing platforms are included in the strategic marketing plans for our Springboard businesses. Ferro Electronic Material Systems will add production of photovoltaic materials in 2004 to its facility in Tsukuba, Japan, to serve that country's world leaders in solar cell manufacture, and has future plans to expand to Ferro's Suzhou, China facility to meet anticipated growth there. Our Fine Chemicals business is expanding production of electrolytes to China to serve the world's largest concentration of rechargeable battery makers.

In addition, we will continue to seek "bolt-on" acquisitions that will help our businesses to expand geographically.

THE LEADERSHIP AGENDA calls for Ferro's businesses to have *sustainable competitive advantages, critical mass* and to be *global in scope*.



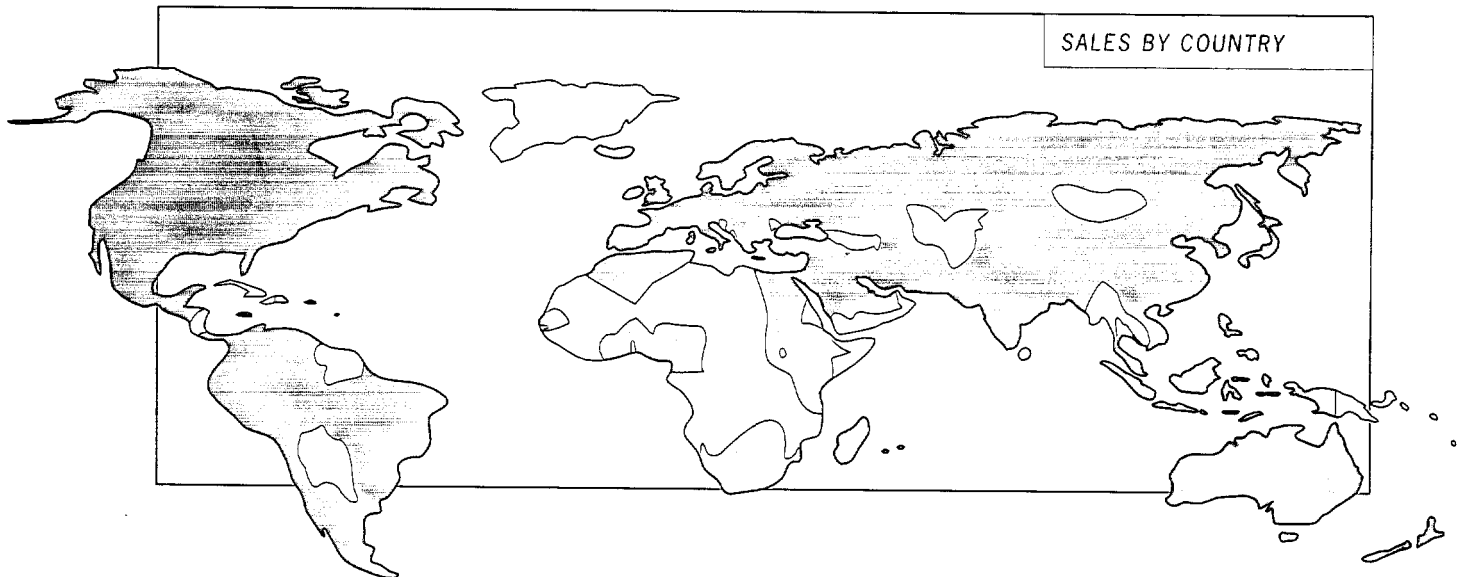
SALES BY END MARKET*

building and renovation 38%**
 electronics 21%
 automotive 9%
 industrial products 6%
 other 10%

SALES BY REGION***

North America 43%
 Europe 35%
 Asia-Pacific 19%
 Latin America 3%

*Based on 2003 sales. **Approximately 60% of Building & Renovation sales are generated outside the United States. ***Based on product destination



CORE TECHNOLOGY		Porcelain Enamel	Tile Coating Systems	Color and Glass Performance Materials	Polymer Additives	Specialty Plastics	Electronic Material Systems	Pharma and Fine Chemicals
Formulation Technology	Particle Development and Engineering							
Surface Application Technology	Color Science and Technology							
Glass Science and Technology								

Formulation Technology

Combining existing materials to create new mixes

Requires knowledge of chemistry, mixing, dispersion and materials characterization

Particle Development and Engineering

Involves the synthesis and isolation of particles with specific size distribution and properties, such as porosity and ease of dispersion

Surface Application Technology

Includes coating and decorating technology and surface finishing

Key is understanding complex chemical and physical interactions occurring at the interface with the substrate

Color Science and Technology

Refers to the creation and characterization of color

Glass Science and Technology

Competency in high temperature inorganic chemistry and glass formation processing knowledge

globally managed core technologies *link Ferro's diversified businesses.*

managing technologies for

growth

Ferro is a diversified set of specialty materials businesses linked together through the core technologies described in the chart on the previous page. Technology is a key component of our long-term growth strategy. We

have strengthened our technical leadership with experienced directors in targeted growth areas and formed a Technology Leadership Team that has reassessed our core technologies and their ability to provide sustainable competitive advantages.

This team, comprised of senior technical representatives from each of our businesses, works to fuel profitable growth by leveraging our technical capabilities across businesses and regions and by developing innovative products and processes. Technology is managed at a global level, and is aligned with the strategic and operational needs of each business.

The team is implementing a company-wide stage-and-gate protocol for all R&D projects. This system effectively manages from idea-generation to product offering by linking the technical and business leadership teams through the entire process, including development, testing, scale-up and commercialization.

Our core technologies are supported by 400 scientists/engineers and technicians worldwide. Technical centers of excellence are located in Independence, OH; Cleveland, OH; Vista, CA; Evansville, IL; Washington, PA; Penn Yan, NY; South Plainfield, NJ; Hanau, Germany; St. Dizier, France; Castellon, Spain and Tsukuba, Japan.

As we continue making bolt-on acquisitions, we will look for businesses that improve upon these core technologies.

FERRO'S REVENUE GROWTH will be leveraged against
a much-improved cost structure.

excellence supports

growth

Ferro's multifaceted Operational Excellence Initiative has lowered our cost basis and reduced our debt-to-total capital ratio from 76% in June 2003 to 50%*. We have completed integration

of businesses acquired from dmc. Restructuring and consolidation actions taken in 2003 will yield cost savings of \$15 million in 2004.

Supply Chain Management and Sales and Operations Planning implemented since September 2001 have reduced working capital by 35% and freed up \$155 million of cash. Previously 33.0% of sales, working capital is now 15.2% of sales. We have cut net inventories from 20.5% of sales to 11.1%. Improved forecasting and manufacturing planning have reduced overtime and guided capital investments in equipment.

Our employees have teamed up in Lean Manufacturing events to eliminate waste in our production and business processes, cutting activities that do not add value for our customers. Results include reduced

WORKING capital

\$450
400
350
300
250
200
150
100
50

percent
of sales

45%
40
35
30
25
20
15
10
5

01/01/02 04/01/02 07/01/02 10/01/02 12/31/02 03/31/03 06/30/03 09/30/03 12/31/03

cycle times, quality improvements, faster deliveries, more efficient use of materials and increased productivity, which combined significantly with savings in energy. As we move forward, our revenue growth will be supported by a much-improved cost structure.

Our Health & Safety programs protect our workers and the surrounding communities. Separate in-house groups conduct regular audits and provide consulting to our sites to ensure a safe, clean and healthy work environment. More than 40 facilities operated with no lost-time injuries in 2003, including many plants that have not experienced a lost-time injury in over five years. Safety is a core value at Ferro, and we are committed to a goal of zero injuries.

* Effective total capital rate is calculated using balance sheet debt.

Adjusted income for continuing operations as net receivables includes (excluding Ferro securities) a net investment - net trade accounts payable. Sales are calculated as a three-month rolling total, annualized.

Strategic Marketing directs our organic growth to maximize profitability. We are not a supplier of commodity materials. Rather, we seek out fast-growing market niches and high-growth geographic regions where we can apply our technical resources to solve our customers' problems and add value to their products.

Ferro helps customers develop better drugs to fight cancer and AIDS and treat illnesses with injectable therapeutic protein drugs. We also make additives used in manufacturing FDA-grade plastic IV bags and medical tubing.

strategic marketing maximizes



restructuring for growth: reshaping Ferro's portfolio

Acquisitions have played an important role in the implementation of the Leadership Agenda strategy that has enabled Ferro to accelerate growth and be better positioned for the long term. Since 1999, Ferro has added more than \$700 million in revenue from acquisitions.

Our acquisitions of TAM Ceramics, EMCA-Remex and dmc² provided critical mass, technology and market penetration in the U.S., Asia and Europe, and made Electronic Material Systems one of Ferro's core businesses today.

Our Tile Coating Systems business strengthened its global market position as a result of the dmc² acquisition. This acquisition also tripled the size of our Color

and Glass Performance Materials business – making it the world's largest – and added technologies that will help drive further growth.

The acquisition of Solutia's Polymer Modifiers Business made Ferro one of the top five North American suppliers of PVC specialty additives and positioned the business for growth in Europe and Asia. The Advanced Polymer Compounding acquisition added a complementary product line to our Specialty Plastics business. In addition, the Pfanstiehl Laboratories acquisition placed Ferro in the high-growth pharmaceutical and biotechnology markets and brought current good manufacturing practice (CGMP) technology to our Fine Chemicals business.

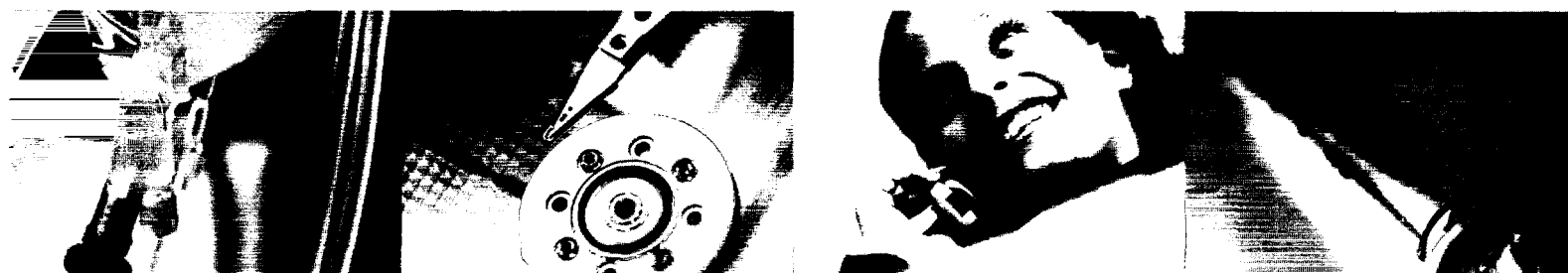
FERRO'S HIGHER-GROWTH BUSINESSES provide value
in *rapidly growing markets.*

Some of our products extend the life of rechargeable batteries for portable electronic devices; others make those devices lighter and faster by enabling smaller, more powerful electronic components.

We increase the durability of automotive electronic components and interior vinyl upholstery. We also improve gas mileage with lighter weight materials.

Innovations for architectural glass panels give buildings a uniform façade, and can repel dirt automatically to keep them sparkling.

Strategic Marketing keeps Ferro looking ahead and our R&D pipeline filled with next-generation products to meet our customers' evolving needs.



1999	2000	2001	2002	2003
Advanced Polymer Compounding Thermoplastic elastomers \$25 MM added revenue* 2% of Ferro Total Sales	Polymer Modifiers Business Specialty plasticizers \$140 MM added revenue* 10% of Ferro Total Sales	EMCA-Remex Microelectronics films paste \$15 MM added revenue* 1% of Ferro Total Sales	Powder Coatings Divestiture	Specialty Ceramics Divestiture Petroleum Additives Divestiture
TAM Ceramics Dielectric powders \$60 MM added revenue* 4% of Ferro Total Sales	Pfanstiehl Laboratories Fine chemicals for pharmaceuticals \$35 MM added revenue* 3% of Ferro Total Sales	dmc ² Specialty colors Electronic materials Ceramic glazes \$521 MM added revenue* 35% of Ferro Total Sales		

* Based on pro forma sales at the time of acquisition.

We have divested several businesses in our quest to be more focused with businesses that have critical mass, a sustainable competitive advantage and are global in scope. We will continue to assess investments – including

“bolt-on” acquisitions – that will complement existing product lines and technologies, particularly those that will help our businesses to expand geographically.

SELECTED financial data *summary*

FERRO CORPORATION AND SUBSIDIARIES / YEARS ENDED DECEMBER 31

	2003	2002	2001
OPERATING RESULTS			
Sales from continuing operations	\$1,622,370	\$1,528,454	\$1,246,503
Income from continuing operations	17,380	33,747	30,012
Income from discontinued operations	(923)	6,172	9,185
Gain on disposal of discontinued operations	3,094	33,804	—
Net Income	\$19,551	\$73,723	\$39,197
PER COMMON SHARE DATA^(a)			
Basic earnings			
From continuing operations	\$0.38	\$0.82	\$0.79
From discontinued operations	0.05	1.04	0.26
	\$0.43	\$1.86	\$1.05
Diluted earnings			
From continuing operations	\$0.38	\$0.81	\$0.79
From discontinued operations	0.05	0.98	0.25
	\$0.43	\$1.79	\$1.04
Cash dividends per share	\$0.58	\$0.58	\$0.58
OTHER			
Average shares outstanding ^(a)	40,910	38,277	34,246
Net cash provided by operations	\$86,773	\$151,242	\$186,509
Long term debt, net of current portion	\$516,236	\$443,552	\$829,740
Number of employees (year end) ^(b)	6,847	7,689	9,348
Number of holders of common stock (year end)	1,949	2,017	2,056

(a) BASIC EARNINGS PER SHARE ARE BASED ON A WEIGHTED AVERAGE OF COMMON SHARES OUTSTANDING. DILUTED EARNINGS PER SHARE REFLECT THE POTENTIAL DILUTION OF EARNINGS PER SHARE, ASSUMING THAT CERTAIN STOCK OPTIONS WHOSE EXERCISE PRICE IS LESS THAN THE AVERAGE MARKET PRICE OF THE STOCK ARE EXERCISED, AND THAT CONVERTIBLE PREFERRED SHARES ARE CONVERTED INTO COMMON SHARES.

(b) NUMBER OF EMPLOYEES FOR 2002 AND 2003 IS FOR CONTINUING OPERATIONS ONLY. NUMBER OF EMPLOYEES FOR 2001 INCLUDES CONTINUING OPERATIONS AND DISCONTINUED OPERATIONS.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K/A

(MARK ONE)

☒ [X]

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT
OF 1934

For the fiscal year ended December 31, 2003

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE
ACT OF 1934

For the transition period from _____ to _____

COMMISSION FILE NUMBER 1-584

FERRO CORPORATION

(Exact name of registrant as specified in its charter)

AN OHIO CORPORATION 1000 LAKESIDE AVENUE,
CLEVELAND, OH 44114 I.R.S. NO. 34-0217820
(Address of principal executive offices)

REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE: 216-641-8580
SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

Title of Class

Name of Exchange on which Registered

Common Stock, par value \$1.00
Common Stock Purchase Rights

New York Stock Exchange
New York Stock Exchange

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:

9 1/8% Senior Notes due January 1, 2009

7 5/8% Debentures due May 1, 2013

7 3/8% Debentures due November 1, 2015

8% Debentures due June 15, 2025

7 1/8% Debentures due April 1, 2028

Series A ESOP Convertible Preferred Stock, without Par Value

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ [X] No ☐ []

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained here, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒ [X]

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act). Yes ☒ [X] No ☐ []

On June 30, 2003 there were 40,754,825 shares of Ferro Common Stock, par value \$1.00 outstanding. As of the same date, the aggregate market value (based on closing sale price) of Ferro's Common Stock held by non-affiliates was \$918,206,207.

On January 30, 2004 there were 41,677,903 shares of Ferro Common Stock, par value \$1.00 outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of Ferro Corporation's Proxy Statement for the Annual Meeting of Shareholders on April 30, 2004 (incorporated into Part III of this Form 10-K).

EXPLANATORY NOTE

This Form 10-K/A for the fiscal year ended December 31, 2003 is being filed solely for the purpose of correcting typographical errors in Item 8 to the Form 10-K filed electronically with the U.S. Securities and Exchange Commission on March 12, 2004.

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PART I

Item 1- *Business*

Ferro Corporation (“Ferro” or the “Company”), incorporated under the laws of Ohio in 1919, is a leading global producer of a diverse array of performance materials sold to a broad range of manufacturers in approximately 30 markets throughout the world. The Company applies certain core scientific expertise in organic chemistry, inorganic chemistry, polymer science and material science to develop coatings for ceramics and metal; materials for passive electronic components; pigments; enamels, pastes and additives for the glass market; specialty plastic compounds and colors; polymer additives; specialty chemicals for the pharmaceuticals and electronics markets; and active ingredients and high purity carbohydrates for pharmaceutical formulations. Ferro’s products are classified as performance materials, rather than commodities, because they are formulated to perform specific and important functions both in the manufacturing processes and in the finished products of our customers. The Company’s performance materials require a high degree of technical service on an individual customer basis. The value of these performance materials stems from the results and performance they achieve in actual use.

Ferro’s products are traditionally used in markets such as appliances, automotive, building and renovation, electronics, household furnishings, industrial products, pharmaceuticals, telecommunications and transportation. The Company’s leading customers include major chemical companies, pharmaceutical companies, producers of multi-layer ceramic capacitors and manufacturers of tile, appliances and automobiles. Many customers, particularly in the appliance and automotive markets, purchase materials from more than one of the Company’s business units. Ferro’s customer base is also well-diversified both geographically and by end market.

Risk Factors

Certain statements contained here and in future filings with the Securities and Exchange Commission reflect the Company’s expectations with respect to future performance and may constitute “forward-looking statements” within the meaning of federal securities laws. These statements are subject to a variety of uncertainties, unknown risks and other factors concerning the Company’s operations and business environment, which are difficult to predict and are beyond the control of the Company. Important factors that could cause actual results to differ materially from those suggested by these forward-looking statements, and that could adversely affect the Company’s future financial performance, include the following:

- Current and future economic conditions in the United States and worldwide, including continuing economic uncertainties in some or all of the Company’s major product markets;

- Changes in customer requirements, markets or industries Ferro serves;

- Changes in the prices of major raw materials or sources of energy;

- Escalation in the cost of providing employee health care and pension benefits;

- Risks related to fluctuating currency rates, changing legal, tax and regulatory requirements that affect the Company’s businesses and changing social and political conditions in the many countries in which the Company operates;

- Political or economic instability as a result of acts of war, terrorism or otherwise; and

- Access to capital, primarily in the United States capital markets, and any restrictions placed on Ferro by current or future financing arrangements.

The risks and uncertainties identified above are not the only risks the Company faces. Additional risks and uncertainties not presently known to the Company or that it currently believes to be immaterial also may adversely affect the Company. Should any known or unknown risks and uncertainties develop into actual events, these developments could have material adverse effects on the Company’s business, financial condition and results of operations.

Raw Materials

Raw materials widely used in Ferro's operations include resins, thermoplastic polymers, cobalt oxide, zinc oxide, zircon sand, borates, chlorine, silica, stearic acid, tallow and titanium dioxide. Other important raw materials include silver, nickel, copper, gold, palladium, platinum and other precious metals. Raw materials make up a large portion of the product cost in certain of the Company's product lines and fluctuations in the price of raw materials may have a significant impact on the financial performance of those businesses. Precious metal price fluctuations are generally passed through to customers.

The Company has a broad supplier base and, in most instances, alternative sources of raw materials are available if problems arise with a particular supplier. Ferro maintains comprehensive supplier agreements for its strategic and critical raw materials. In addition, the magnitude of the Company's purchases provides for significant leverage in negotiating favorable conditions for supplier contracts. The raw materials essential to Ferro's operations both in the United States and overseas are in most cases obtainable from multiple sources worldwide. Ferro did not encounter raw material shortages in 2003 but is aware of upcoming shortages in the world market in 2004 for commodities like cobalt, nickel and zircon. Ferro does not expect to be affected by such shortages other than price increases for such products.

Patents, Trademarks and Licenses

Ferro owns a substantial number of patents and patent applications relating to its various products and their uses. While these patents are of importance to Ferro, management does not believe that the invalidity or expiration of any single patent or group of patents would have a material adverse effect on its business. Ferro's patents and patents that may issue from pending applications will expire at various dates through the year 2024. Ferro also uses a number of trademarks which are important to its business as a whole or to a particular segment. Ferro believes that these trademarks are adequately protected.

Customers

No material parts of the Company's coatings or performance chemicals businesses are dependent on any single customer or group of customers.

Backlog of Orders; Seasonality

In general, no significant lead-time between order and delivery exists in any of Ferro's business segments. As a result, Ferro does not consider that the dollar amount of backlog orders believed to be firm as of any particular date is material for an understanding of its business. Ferro does not regard any material part of its business to be seasonal.

Competition

In most of its products, Ferro has a substantial number of competitors, none of which is dominant. Due to the diverse nature of Ferro's product lines, no single company competes across all product lines in any of the Company's segments. Competition varies by product and by region and is based primarily on price, product quality and performance, customer service and technical support.

In the coatings segment, the Company is a worldwide leader in the production of glass enamels, porcelain enamel, ceramic glaze coatings and passive electronic materials, and believes it is currently the only merchant manufacturer of all primary components (electrodes, dielectrics, and termination pastes) of multi-layer capacitors. Strong local competition for ceramic glaze and color exists in the markets of Italy and Spain. In the performance chemicals segment, the Company is one of the largest producers of polymer additives in the United States and has several large competitors.

Research and Development

Ferro is involved worldwide in research and development activities relating to new and existing products, services and techniques required by the ever-changing markets of its customers. The Company's research and development resources are organized into centers of excellence that support its regional and worldwide major business units. These centers are augmented by local laboratories which provide technical service and support to meet customer and market needs of particular geographic areas.

Expenditures for research and development activities relating to the development or significant improvement of new and/or existing products, services and techniques for continuing operations were approximately \$36.7 million in 2003, \$31.1 million in 2002 and \$26.0 million in 2001. Expenditures for individual customer requests for research and development were not material. During 2004, Ferro expects to spend \$38.1 million on research and development activities, an increase of 3.8% over 2003.

Environmental Matters

Ferro's manufacturing facilities, like those of its industry generally, are subject to numerous laws and regulations implemented to protect the environment, particularly with respect to plant wastes and emissions. Ferro believes that it is in compliance with the environmental regulations to which its operations are subject and that, to the extent Ferro may not be in compliance with such regulations, non-compliance has not had a materially adverse effect on Ferro's operations.

Ferro spent \$9.6 million in capital expenditures for environmental control in 2003, and estimates capital expenditures for environmental control to be \$15.0 million and \$5.9 million in 2004 and 2005, respectively. The majority of the forecasted increase in 2004 capital expenditures for environmental control is related to improvement of local air quality systems in Europe.

Employees

At December 31, 2003, Ferro, in its continuing business operations, employed 6,847 full-time employees, including 4,364 employees in its foreign subsidiaries and affiliates and 2,483 in the United States. Total employment decreased by 842 full time employees from December 31, 2002, due to cost reduction initiatives, the integration of dmc² operations and the divestment of certain businesses.

Approximately 22% of the domestic workforce is covered by labor agreements, and approximately 6% is affected by labor agreements that expire in 2004. The Company expects to complete renewals of these agreements with no significant disruption to the related businesses.

Domestic and Foreign Operations

Financial information about Ferro's domestic and foreign operations is included herein in Note 14 to the Consolidated Financial Statements under Item 8 of this Form 10-K.

Ferro's products are produced and distributed in foreign as well as domestic markets. Ferro commenced its international operations in 1927.

Wholly-owned subsidiaries operate manufacturing facilities in Argentina, Australia, Belgium, Brazil, China, France, Germany, Italy, Japan, Mexico, the Netherlands, Portugal, Spain, Thailand and the United Kingdom. Partially-owned subsidiaries manufacture in China, Ecuador, Indonesia, Italy, Japan, Spain, South Korea, Taiwan, Thailand and Venezuela.

Ferro receives technical service fees and/or royalties from many of its foreign subsidiaries. Historically, as a matter of corporate policy, the foreign subsidiaries have been expected to remit a portion of their annual earnings to the parent as dividends. To the extent earnings of foreign subsidiaries are not remitted to Ferro, those earnings are indefinitely re-invested in those subsidiaries.

Available Information

The Company's Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, including any amendments, will be made available free of charge on the Company's web site, www.ferro.com, as soon as reasonably practicable, following the filing of the reports with the Securities and Exchange Commission.

Item 2 — Properties

The Company's corporate headquarters offices are located at 1000 Lakeside Avenue, Cleveland, Ohio. The Company also owns other corporate facilities, located in Independence, Ohio. The locations of the principal manufacturing plants by business segment owned by Ferro are as follows, listed by segment:

COATINGS - U.S.: Cleveland, Ohio; Washington, Pennsylvania; Toccoa, Georgia; Orrville, Ohio; Penn Yan, New York; South Plainfield, New Jersey; and Niagara Falls, New York. Outside of the U.S.: Argentina, Australia, Brazil, China, France, Germany, Indonesia, Italy, Mexico, the Netherlands, Spain, Taiwan, Thailand, United Kingdom and Venezuela.

PERFORMANCE CHEMICALS — U.S.: Walton Hills, Ohio; Cleveland, Ohio; Fort Worth, Texas; Baton Rouge, Louisiana; Waukegan, Illinois; Bridgeport, New Jersey; Plymouth, Indiana; Evansville, Indiana; Stryker, Ohio; and Edison, New Jersey. Outside of the U.S.: Belgium, Indonesia, The Netherlands, Spain, and United Kingdom.

In addition, Ferro leases manufacturing facilities for the coatings segment in Vista, California; Brazil, Germany, Italy, Japan, the Netherlands and Portugal, and for the performance chemicals segment in Carpentersville, Illinois. In some instances, the manufacturing facilities outside the United States are used in both business segments.

Information concerning ownership of the facilities is also contained in Note 3 to the consolidated financial statements included herein under Item 8.

Item 3 — Legal Proceedings

There are various lawsuits and claims pending against the Company and its consolidated subsidiaries. In the opinion of management, the ultimate liabilities (if any) and expenses resulting from such lawsuits and claims will not materially affect the consolidated financial position, results of operations or liquidity of the Company.

In February 2003, the Company was requested to produce documents in connection with an investigation by the United States Department of Justice into possible antitrust violations in the heat stabilizer industry. Subsequently, the Company received several class action lawsuits alleging civil damages and requesting injunctive relief as a result of this investigation. The Company has no reason to believe that it or any of its employees engaged in any conduct that violated the antitrust laws. The Company is cooperating with the Department of Justice in its investigation and is vigorously defending itself in the class action lawsuits. Management does not expect this investigation to have a material effect on the consolidated financial position, results of operations or liquidity of the Company.

Item 4 — Submission of Matters to a Vote of Security Holders

No matters were submitted to a vote of Ferro's security holders during the fourth quarter of the fiscal year covered by this report.

Executive Officers of the Registrant

Below are set forth the name, age and positions held by each individual serving as an executive officer of the Company as of March 12, 2004, as well as their business experience during the past five years. Years indicate the year the individual was named to or held the indicated position. There is no family relationship between any of Ferro's executive officers.

Hector R. Ortino — 61

Chairman and Chief Executive Officer, 1999

President and Chief Executive Officer, 1999

President and Chief Operating Officer, 1998

James C. Bays — 54

Vice President and General Counsel, 2001

Senior Vice President, General Counsel and Chief Legal Officer, Invensys plc, 1998

Thomas M. Gannon — 54

Vice President and Chief Financial Officer, 2003

Chief Operating Officer, Riverwood International Corporation, 2001

Executive Vice President, Commercial Operations, Riverwood International Corporation, 1998

Dale G. Kramer — 51

Vice President, Performance Chemicals, 2002

Vice President, Industrial Coatings, 2001

Worldwide Business Director, Powder Coatings, 2000

Worldwide Business Director, Appliance Market, 1999

Global Vice President and General Manager, Estane TPU Division, B.F. Goodrich Company, 1998

Millicent W. Pitts — 49

Vice President, Tile Coating Systems, 2002

Vice President, Industrial Coatings, 2001

Vice President, Global Support Operations, 1998

Robert W. Martel — 62

Vice President, Color & Glass Performance Materials, 2001

President & CEO of dmc² North America, Degussa-Huels Corporation, 1999

President & CEO of Cerdec North America, Degussa-Huels Corporation, 1998

M. Craig Benson — 55

Vice President, Electronic Material Systems, 2002

MBU Director Electronic Material Systems, 2000

Executive Vice President & General Manager dmc², Degussa-Huels Corporation, 1999

Vice President & General Manager, Metal Division Global Head, Electronic Materials, Degussa-Huels Corporation, 1998

PART II

Item 5 — Market for Registrant's Common Equity and Related Stockholder Matters

Quarterly Data

Ferro Corporation and subsidiaries.

The quarterly high and low closing stock prices and dividends declared per share for 2003 and 2002 are presented below:

	2003			2002		
	<u>High</u>	<u>Low</u>	<u>Dividends</u>	<u>High</u>	<u>Low</u>	<u>Dividends</u>
First Quarter	\$ 24.68	19.24	0.145	\$ 29.14	23.76	0.145
Second Quarter	24.75	20.20	0.145	30.50	27.27	0.145
Third Quarter	23.57	20.62	0.145	30.55	22.33	0.145
Fourth Quarter	27.47	20.00	0.145	26.33	21.37	0.145

The common stock of the Company is listed on the New York Stock Exchange under the ticker symbol FOE. At January 30, 2004, the Company had 1,928 shareholders of record for its common stock.

Information concerning dividend restrictions and liquidity is included in Management's Discussion and Analysis of Financial Condition and Results of Operations contained under Item 7 herein.

Item 6 – Selected Financial Data

Ferro Corporation and subsidiaries

Years ended December 31, 1999 through 2003

(in millions of dollars except per share data)

	<u>2003</u>	<u>2002</u>	<u>2001</u>	<u>2000</u>	<u>1999</u>
Net Sales	\$ 1,622.4	1,528.5	1,246.5	1,173.0	1,061.0
Income from Continuing Operations	\$ 17.4	33.7	30.0	69.5	67.5
Diluted Earnings per Share from Continuing Operations	\$ 0.38	0.81	0.79	1.83	1.68
Cash dividends per share	\$ 0.58	0.58	0.58	0.58	0.55
At December 31,					
Total Assets	\$ 1,751.2	1,604.5	1,732.6	1,127.0	971.8
Long-Term Debt, including Current Portion	\$ 516.8	444.4	831.4	352.5	237.5
Total Debt*	\$ 530.1	562.1	939.5	530.6	312.3

*Total Debt includes Long-Term Debt, including Current Portion, Notes and loans payable, borrowings under asset securitization and a leveraged lease program. Reference Item 7, Liquidity and Capital Resources, for discussion on the asset securitization and leveraged lease program.

Quarterly information from continuing operations is set forth below:

					<u>Per common share</u>	
	<u>Quarter</u>	<u>Net Sales</u>	<u>Gross Profit</u>	<u>Net Income</u>	<u>Basic Earnings</u>	<u>Diluted Earnings</u>
2002	1	\$ 365.0	93.3	4.9	0.12	0.13
	2	408.4	106.7	11.8	0.30	0.29
	3	388.8	95.2	10.0	0.23	0.23
	4	366.3	89.9	7.0	0.17	0.16
	Total	\$ 1,528.5	385.1	33.7	0.82	0.81
2003	1	\$ 401.8	101.1	9.5	0.22	0.22
	2	416.2	98.1	5.9	0.13	0.13
	3	397.0	89.6	(0.8)	(0.03)	(0.03)
	4	407.4	92.5	2.8	0.06	0.06
	Total	\$ 1,622.4	\$ 381.3	\$ 17.4	\$ 0.38	\$ 0.38

The Company adopted Statement of Financial Accounting Standards No. 142, "Goodwill and Other Intangible Assets" (Statement No. 142) for business combinations consummated after June 30, 2001, as of July 1, 2001, and adopted Statement No. 142 in its entirety effective January 1, 2002. Accordingly, all goodwill and other intangible assets having indefinite useful lives are not amortized but instead are subject to impairment testing on at least an annual basis. Before the adoption of any provisions of Statement No. 142, goodwill and intangible assets having indefinite useful lives were amortized ratably over their estimated useful lives.

In September 2001, the Company acquired from OM Group, Inc. certain businesses previously owned by dmc² Degussa Metals Catalysts Cerdec AG (dmc²). See further information regarding the transaction in Note 7 to the Company's consolidated financial statements included herein under Item 8.

In September 2002, Ferro completed the sale of its Powder Coatings business unit, previously part of its Coatings segment. On June 30, 2003, the Company completed the sale of its Petroleum Additives business, previously part of its Performance Chemicals segment and its Specialty Ceramics business, previously part of its Coatings segment. For all periods presented, the Powder Coatings, Petroleum Additives and Specialty Ceramics businesses have been reported as discontinued operations. The divestiture of the Powder Coatings, Petroleum Additives and Specialty Ceramics businesses are further discussed in Note 9 to the Company's consolidated financial statements included herein under Item 8. The results of these divested operations are excluded from the information presented in the above table.

Item 7 - Management's Discussion and Analysis of Financial Condition and Results of Operations

Overview

During 2003, Ferro completed the integration of dmc², acquired in September 2001, to significantly reposition the Company's portfolio toward higher growth businesses, solidify its leading market position in core businesses and further geographic diversity. The Company is positioned in 2004 to fully realize these benefits and the synergies from integrating the dmc² businesses, including the elimination of duplicate facilities, reduced overhead and raw material sourcing leverage.

Net income for the year 2003 declined to \$19.6 million from \$73.7 million in 2002 due primarily to the \$33.8 million gain on the sale of the Powder Coatings business in 2002, higher raw material costs and the impact of reduced volumes in certain markets. With the weak conditions throughout most of the markets that Ferro served during 2003, all of the Company's businesses have continued to concentrate on lowering working capital, reducing costs and maximizing cash flow generation. As a result, the Company generated cash flow from continuing operations of \$86.8 million which enabled a further reduction in total debt, including off balance sheet borrowing, of \$32.0 million.

Going forward into 2004, the Company will continue to focus on aggressive cost containment measures, strengthening the balance sheet and closely managing working capital. Major emphasis will also be placed on the organic growth of our Electronic Material Systems and Pharmaceuticals and Fine Chemicals businesses and on accelerating growth in the Asia-Pacific region, especially in China. The Company expects that certain costs, including raw materials, wages and benefits will increase in 2004, offsetting, in part, the benefits of cost reduction efforts. Factors that could adversely affect the Company's future financial performance are contained within "Risk Factors" included herein under Item 1.

In September 2002, the Company completed the sale of its Powder Coatings business unit and in June 2003, the Company completed the sale of its Petroleum Additives and Specialty Ceramics business units, and accordingly for all periods presented, each of these businesses has been reported as a discontinued operation.

Outlook

The fourth quarter showed promising signs of economic recovery in North America and demand for our key end markets in the Asia Pacific region remained robust. While we expect this trend to continue into 2004, the weakness of the European economy remains a concern. A recovery in our European end-market demand will likely lag a recovery in North America.

The company will be challenged in the short term by increasing oil-based raw material costs and costs for other commodities like cobalt, nickel and zircon which will be offset by price increases where appropriate and increased volumes for most of our product lines and cost savings from actions taken in 2003.

Coatings Segment. For Tile Coatings, the European economic environment and the strong Euro have been a challenge during 2003. Production facilities were consolidated in Italy and several other cost reduction initiatives were completed during the year. The consolidation and productivity gains achieved in 2003, combined with modest demand growth over the next several quarters in 2004 and continued cost reduction through lean manufacturing initiatives, should support significant operating margin improvement going forward for Tile Coatings.

The month of December, 2003 provided the strongest sales month of the year for electronic materials, which should continue to benefit from the global rebound in the electronics end markets. We expect electronic materials sales to grow at the pace of semiconductor build rates for the foreseeable future.

Performance Chemicals Segment. Polymer Additives has been faced with a decline in demand, pricing pressure due to industry-wide over capacity, and rising raw materials costs during 2003. During the fourth quarter of 2003, the PVC industry posted a modest recovery from its mid-year low point. Also, while raw material prices remain high, price increases were successfully implemented to offset some of the margin impact. Significant cost reductions have been completed and discretionary spending has been restricted in Polymer Additives and further emphasis has been placed on reducing working capital.

For Specialty Plastics, demand improved in the fourth quarter of 2003 for the key North American end markets: consumer packaging, appliances and automotive. Demand for plastic products in Europe continued to lag, partially offsetting the improved demand in North America. As the company moves into 2004, increasing oil prices may result in further raw material cost increases for Specialty Plastics, however, improving market conditions should allow for higher product pricing to help offset the higher costs.

Pharmaceuticals and Fine Chemicals realized double-digit growth in revenue and profits in 2003 compared to the fourth quarter and full year of 2002. Significant progress has been made in implementing the value-added niche strategy for this business, which has expanded the opportunities for growth.

Summary. Overall, we are optimistic given the trends we are seeing, but there is still uncertainty surrounding the impact of the strong Euro and increasing oil prices. In addition, some of the geo-political events that have negatively impacted the economy in the recent past remain unresolved.

The Company expects to meet its liquidity requirements for debt service, working capital, capital investments, post-retirement obligations and dividends during 2004 from a variety of sources, including cash flow from operations and use of its credit facilities. The Company has a \$300.0 million revolving credit facility, of which \$135.5 million was available as of December 31, 2003, and accounts receivable securitization facility under which the Company may receive advances of up to \$150.0 million, subject to the level of qualifying accounts receivable.

The discussions presented below under "Results of Operations" focus on the Company's results from continuing operations.

Results of Operations

Comparison of the years ended December 31, 2003 and 2002

Sales from continuing operations for the year ended December 31, 2003, of \$1,622.4 million were 6.1% higher than the \$1,528.5 million of sales for the comparable 2002 period. The impact of strengthening currencies, in particular the Euro, improved revenue by 6.6% during the year ended December 31, 2003. Higher volumes in the Asia Pacific region and North America also contributed to the sales increase for the year 2003 but were partially offset by lower volumes in Europe stemming from continued economic weakness.

Gross margin from continuing operations were 23.5% of sales compared with 25.2% for the prior year period. The reduced gross margins compared with the prior year stemmed from raw material cost increases in the Performance Chemicals segment only partially recovered through price adjustments and lower operating rates for the Coatings segment in Europe.

Selling, administrative and general expenses from continuing operations were \$309.3 million for the year ended December 31, 2003, compared with \$282.5 million for the same period in 2002. The \$26.8 million increase in selling, administrative and general expenses was caused by the impact of the stronger Euro against the dollar of \$18.4 million, increased integration and restructuring costs of \$5.0 million and higher pension expense. In addition, research and development spending in our electronics and pharmaceuticals businesses increased by another \$2.7 million compared to the same period of 2002. This increase was partially offset by integration savings and other expense reduction initiatives.

Earnings for the year ended December 31, 2003, included pre-tax charges of \$16.7 million related primarily to restructuring costs, consisting principally of the costs of terminating employees related to facilities rationalization, overhead reduction and lease buy-out costs. The year ended December 31, 2002 included \$9.4 million of similar charges. Of the \$16.7 million of charges incurred in 2003, \$5.7 million were recorded in cost of sales, \$10.5 million in selling, administrative and general expenses, and \$0.5 million in miscellaneous expense.

Interest expense from continuing operations was \$35.6 million for the year ended December 31, 2003, compared to \$41.8 million for the year ended December 31, 2002. This is the result of a debt reduction program that included sale of five million common shares through a public offering in May 2002, the sale of the Company's Powder Coatings' business unit in September, 2002, other debt reduction initiatives and lower interest rates. The Company benefited from low variable interest rates during 2003 and, at December 31, 2003, continued to have a significant component of its indebtedness with variable rate instruments.

Net foreign currency loss for the year ended December 31, 2003, was \$2.2 million as compared to \$0.4 million for the year ended December 31, 2002. The Company has and continues to use certain foreign currency instruments to offset the effect of changing exchange rates on foreign subsidiary earnings. The carrying values of such contracts are adjusted to market value and resulting gains or losses are charged to income or expense in the period.

Miscellaneous expense, net, for the year ended December 31, 2003 was \$10.8 million as compared to \$12.9 million for the year ended December 31, 2002. The majority of decrease in miscellaneous expense – net resulted from reduced expenses related to the accounts receivable securitization facility.

Income tax as a percentage of pre-tax income from continuing operations for the year ended December 31, 2003, was 28.3% compared with 30.5% for the year ended December 31, 2002. Contributing to this decline in the effective tax rate were a higher proportion of earnings in jurisdictions having lower statutory tax rates and tax benefits realized from export sales.

Income from continuing operations for the year ended December 31, 2003, was \$17.4 million compared with \$33.7 million for the year ended December 31, 2002. Diluted earnings per share from continuing operations totaled \$0.38 for the year ended December 31, 2003 compared with \$0.81 for the year ended December 31, 2002.

The loss from discontinued operations was \$0.9 million for the year ended December 31, 2003, compared with income of \$6.2 million for the year ended December 31, 2002. Prior year results included the Company's Powder Coatings business unit, which was divested in September 2002, and full year results for the Petroleum Additives and Specialty Ceramics business units, which were divested in June 2003. A gain on the disposal of the Company's Powder Coatings business of \$33.8 million, net of income taxes of \$20.2 million, was recorded in the year ended December 31, 2002. The disposal of the Petroleum Additives and Specialty Ceramics business units resulted in a gain of \$2.5 million, net of income taxes of \$1.7 million, in the year ended December 31, 2003. In addition, certain post-closing matters increased the previously recorded gain on the sale of the Powder Coatings business by \$0.6 million, net of income tax benefit of \$(0.7) million. Diluted earnings per share from discontinued operations totaled \$0.05 for the year ended December 31, 2003, compared to \$0.98 for the year ended December 31, 2002.

Net income for the year ended December 31, 2003 totaled \$19.6 million compared with net income of \$73.7 million for the year ended December 31, 2002. The decline was primarily due to \$37.8 million in lower contribution from discontinued operations, including the \$33.8 million gain from the sale of Powder Coatings, raw material cost increases and lower operating rates. Diluted earnings per share were \$0.43 for the year ended December 31, 2003 versus diluted earnings of \$1.79 for the year ended December 31, 2002.

Coatings Segment Results. Sales in the Coatings segment were \$1,071.8 million for the year ended December 31, 2003, compared with sales of \$986.6 million for the year ended December 31, 2002. The increase of 8.6% in sales is primarily due to the effect of currency exchange rates and increased end market demand for electronics. Operating income for the segment was \$90.7 million for the year ended December 31, 2003, compared with operating income of \$95.9 million for the year ended December 31, 2002. The decrease in segment income reflects lower volumes related to key European end markets for color and glass, tile coatings and porcelain enamel. This was partially offset by cost-saving actions taken throughout the year and increased volume in the electronics industry.

Performance Chemicals Segment Results. Sales in the Performance Chemicals segment were \$550.6 million for the year ended December 31, 2003, compared with sales of \$541.9 million for the year ended December 31, 2002. The year-over-year increase in sales was primarily due to the effect of currency exchange rates, higher prices and improved sales for pharmaceuticals and fine chemicals which more than offset the impact of lower demand for durable goods in the building and renovation end markets. Operating income for the segment was \$26.5 million for the year ended December 31, 2003, compared with \$34.6 million for the year ended December 31, 2002. The lower segment income was due primarily to the impact of lower sales volume and higher raw material costs in both the polymer additives and specialty plastics businesses.

Geographic Sales. Sales in the United States and Canada were \$779.9 million for the year ended December 31, 2003, compared with sales of \$758.6 million for the year ended December 31, 2002. The increase was primarily due to higher sales in the electronics business unit. International sales were \$842.5 million for the year ended December 31, 2003, compared with sales of \$769.9 million for the year ended December 31, 2002. The majority of the international sales increase occurred in Europe due to the strengthening of the Euro against the dollar and in the Asia-Pacific region due to volume growth.

Cash Flows. Net cash provided by operating activities of continuing operations for the year ended December 31, 2003, was \$86.8 million, compared with \$151.2 million for 2002. The change was driven principally by significant working capital reductions in 2002 as compared to an increase in working capital caused primarily by an increase in accounts and trade notes receivable, in 2003. This increase in accounts and trade notes receivable reflects the impact of the Euro and higher volumes in the Asia Pacific region and North America.

Cash used for investing activities of continuing operations was \$68.7 million in 2003 compared with \$39.3 million in 2002. The increase in cash used for investing activities in 2003 was primarily due to the \$25.0 million buy out of an operating lease agreement and purchase price settlement payments of approximately \$8.5 million related to the dmc² acquisition.

Net cash used for financing activities was \$29.9 million in 2003 compared with \$262.9 million in 2002. The higher cash used in the prior year reflects the repayment of long-term debt and the capital markets facility offset partially by the net proceeds from the issuance of common stock. Cash used in 2003 reflects primarily dividends paid to the Company's shareholders.

Net cash used for operating activities of discontinued operations was \$1.1 million in 2003 compared with net cash provided by operating activities of discontinued operations of \$17.4 million in 2002. Net cash provided by investing activities of discontinued operations was \$20.4 million in 2003, including the proceeds from the sale of the Company's Specialty Ceramics and Petroleum Additives businesses of \$20.8 million, as compared to cash provided by investing activities of discontinued operations in 2002 of \$129.8 million, including proceeds from the sale of Powder Coatings of \$132.0 million.

Comparison of the years ended December 31, 2002 and 2001

Consolidated net sales of \$1,528.5 million for 2002 represent a 22.6% increase over 2001 sales of \$1,246.5 million. Overall volume increased 19.5% during the year ended December 31, 2002, including the effect of acquisitions. The increased volume was primarily due to the full year impact of the September 2001 acquisition of certain businesses of dmc² and higher demand levels in the Asia-Pacific region. Sales for 2002 also increased due to the impact of the stronger Euro.

Gross margin as a percent of sales declined slightly to 25.2% in 2002 compared with 25.4% for 2001. Gross margins were adversely impacted by charges of \$3.4 million and \$4.2 million in 2002 and 2001, respectively, relating to the Company's ongoing cost reduction efforts.

Selling, administrative and general expenses of \$282.5 million were 18.5% of sales for 2002, compared with \$245.8 million, or 19.7% of sales, for 2001. The increase in selling, administrative and general expenses was primarily due to the addition of dmc² operating expenses, offset partially by synergies realized from the integration of dmc², the elimination of amortization expense of \$6.5 million on goodwill and other intangibles with indefinite lives in accordance with Statement of Financial Accounting Standards No. 142, and other cost reduction initiatives. Charges for cost reduction and integration programs increased selling, general and administrative expenses by \$6.0 million and \$6.5 million during 2002 and 2001, respectively.

Interest expense for 2002 was higher as compared with 2001 due to the substantial increase in the Company's average level of indebtedness during 2002 as a result of the financing of acquisitions completed in 2001 and 2000. This was partially offset by declines in variable interest rates. The Company benefited from low variable interest rates during 2002 and, at December 31, 2002, continued to have a significant component of its indebtedness with variable rate instruments.

Net foreign currency loss in 2002 was \$0.4 million as compared to \$20.0 million of gains in 2001. The 2001 gain was primarily the result of the settlement of forward contracts initiated for purposes of mitigating the effects of currency movements on the cash flow requirements of the dmc² acquisition purchase price. The Company has and continues to use certain foreign currency instruments to offset the effect of changing exchange rates on foreign subsidiary earnings. The carrying values of such contracts are adjusted to market value and resulting gains or losses are recorded on the income statement for the period.

Miscellaneous expense, net, of \$12.9 million in 2002 was substantially unchanged versus 2001 as banking costs and costs associated with the Company's loan and asset securitization facilities were approximately the same in each year.

Income tax expense as a percentage of income in 2002 was 30.5%, compared with 36.8% in 2001. Contributing to the decline in the effective tax rate were tax benefits realized from export sales, utilization of net operating loss carry-forwards that were fully reserved, the impact of equity in earnings of non-consolidated entities reported net of tax and increased earnings in jurisdictions having lower statutory tax rates.

Income from continuing operations for the year ended December 31, 2002, was \$33.7 million or \$0.81 per diluted share versus \$30.0 million or \$0.79 per diluted share for the year ended December 31, 2001 (\$0.90 per share if FASB Statement No. 142 had been effective as of January 1, 2001).

Income from discontinued operations for 2002 was \$6.2 million compared with \$9.2 million for 2001. In addition, a gain on the disposal of the Company's Powder Coatings business of \$33.8 million, net of tax of \$20.2 million, was realized during 2002.

Net income for the year ended December 31, 2002, was \$73.7 million or \$1.79 per diluted share versus \$39.2 million or \$1.04 per diluted share for the year ended December 31, 2001.

Segment Results. For the year of 2002, sales in the coatings segment increased 38.1% to \$986.6 million from \$714.2 million for 2001. The increase in revenue primarily reflects higher volumes related to the dmc² acquisition and stronger growth in several key markets, including significant growth in the Asia Pacific region. Segment income increased 53.9% to \$95.9 million for 2002 compared with \$62.3 million in 2001. The improvement in income was largely the result of higher volumes due to the dmc² acquisition, internal cost reductions and synergies realized from the integration of dmc².

Sales in the performance chemicals segment increased 1.8% to \$541.9 million for 2002, compared to \$532.3 million for 2001. The sales increase was caused primarily by increases in the building and renovation, durable goods, automotive and consumer packaging markets, offset partially by changes in product mix and lower prices in certain businesses as compared to last year. Income from the segment declined 5.2% to \$34.6 million for 2002 versus 2001 levels of \$36.5 million. The lower income was due primarily to higher raw material costs and lower production rates stemming from the segment's inventory reduction program.

Geographic Sales. Sales in the United States and Canada were \$758.6 million for 2002, compared with \$676.3 million for 2001, an increase of 12.2%. International sales were \$769.9 million for 2002, compared with \$570.2 million for 2001, an increase of 35.0%. Growth in both areas was driven primarily by the dmc² acquisition. International sales were also higher due to improved demand levels in the Asia Pacific region and the impact of a stronger Euro.

Cash Flows. Net cash provided by operating activities of continuing operations for the year ended December 31, 2002, was \$151.2 million, compared with \$186.5 million for 2001. The change was principally driven by higher working capital reductions in 2001 than in 2002. Cash used for investing activities of continuing operations was \$39.3 million in 2002, excluding the proceeds from the sale of the Company's Powder Coatings business of \$132.0 million. Cash used for investing activities in 2001 of \$550.7 million includes \$513.1 million used for acquisitions. Net cash used for financing activities was \$262.9 million for 2002 and reflects the repayment of long-term debt and the capital markets facility offset by the net proceeds from the issuance of common stock. Net cash provided by financing activities of \$357.3 million in 2001 was primarily for borrowings necessary to fund the acquisition of certain businesses of dmc².

Net cash provided by operating activities of discontinued operations was \$17.4 million in 2002 compared with \$32.9 million in 2001. Net cash provided by investing activities of discontinued operations was \$129.8 million in 2002, including the proceeds of \$132.0 million from the sale of the Company's Powder Coatings business, as compared to cash used by investing activities of discontinued operations in 2001 of \$9.7 million for capital expenditures.

Liquidity and Capital Resources

The Company's liquidity requirements include primarily debt service, working capital requirements, capital investments, post-retirement obligations and dividend payments. Capital expenditures were \$36.1 million and \$40.6 million for the years ended December 31, 2003 and 2002, respectively. The Company expects to be able to meet its liquidity requirements from a variety of sources, including cash flow from operations and use of its credit facilities. The Company has a \$300.0 million revolving credit facility, of which \$135.5 million was available as of December 31, 2003. See further information regarding the Company's credit facilities included in Note 3 to the Company's consolidated financial statements under Item 8 herein. The Company also has an accounts receivable securitization facility under which the Company may receive advances of up to \$150.0 million, subject to the level of qualifying accounts receivable.

Off Balance Sheet Financing. In 2000, the Company initiated a \$150.0 million five-year program to sell (securitize), on an ongoing basis, a pool of its trade accounts receivable. This program serves to accelerate cash collections of the Company's trade accounts receivable at favorable financing costs and supplements the Company's liquidity requirements. The decrease in the amounts outstanding during 2003 has reduced the programs importance for liquidity and capital resources. Under this program, certain of the receivables of the Company are sold to a wholly-owned unconsolidated qualified special purpose entity, Ferro Finance Corporation (FFC). FFC can sell, under certain conditions, an undivided fractional ownership interest in the pool of receivables to a multi-seller receivables securitization Company (Conduit). Additionally, under this program, receivables of certain European subsidiaries are sold directly to other conduits. At December 31, 2002, \$85.7 million had been advanced to the Company, net of repayments, under this program. During the twelve months ended December 31, 2003, \$1,050.2 million of accounts receivable were sold under this program and \$1,134.4 million of receivables were collected and remitted to the conduits, resulting in a net reduction in borrowings of \$84.2 million and total advances outstanding at December 31, 2003 of \$1.5 million.

The Company and certain European subsidiaries on behalf of FFC and the Conduits provide service, administration and collection of the receivables. FFC and the Conduits have no recourse to the Company's other assets for failure of debtors to pay when due. Under FASB Statement No. 140, "Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities - a replacement of FASB Statement No. 125," neither the amounts advanced nor the corresponding receivables sold are reflected in the Company's consolidated balance sheet. The accounts receivable securitization facility contains a provision under which the agent can terminate the facility if the Company's senior credit rating is downgraded below BB by Standard & Poor's Rating Group (S&P) or Ba2 by Moody's Investor Service, Inc. (Moody's). (See discussion under Revolving Credit Facility about factors considered by the Ratings Agencies when evaluating a change in the rating.) The Company at December 31, 2003 had a senior credit rating of BBB- by S&P and Baa3 by Moody's. Ferro does not believe that the termination of this facility would reasonably be expected to have a material adverse effect on the Company's liquidity or the Company's capital resource requirements. The termination of this program at December 31, 2003, would have reduced the Company's liquidity to the extent that the total program of \$150.0 million exceeded advances outstanding of \$1.5 million. The liquidity from the Company's revolving credit facility of \$300.0 million under which \$135.5 million was available at December 31, 2003, and the available cash flows from operations, should allow the Company to meet its funding requirements and other commitments if this program was terminated.

The Company retains interest in the receivables transferred to FFC and Conduits in the form of a note receivable to the extent that receivables transferred exceed advances. The note receivable balance was \$91.8 million as of December 31, 2003, and \$23.8 million as of December 31, 2002. The Company and certain European subsidiaries, on a monthly basis, measure the fair value of the retained interests at management's best estimate of the undiscounted expected future cash collections on the transferred receivables. Actual cash collections may differ from these estimates and would directly affect the fair value of the retained interests.

In June 2003, the Company bought out its \$25.0 million leveraged lease program under which the Company leased certain land, buildings, machinery and equipment. The assets had an appraised value of \$22.6 million which was recorded on the balance sheet. A loss of \$1.4 million was recognized in cost of sales in 2003 as a result of the buyout. The program had been accounted for as an operating lease.

Revolving Credit Facility. Obligations under the revolving credit facility are unsecured; however, if the Company's senior credit rating is downgraded below Ba2 by Moody's or BB by S&P, the Company and its material subsidiaries would be required to grant security interests in its principal manufacturing properties, pledge 100% of the stock of material domestic subsidiaries and pledge 65% of the stock of material foreign subsidiaries, in each case, in favor of the Company's lenders under the facility. In that event, liens on principal domestic manufacturing properties and the stock of domestic subsidiaries would be shared with the holders of the Company's senior notes and debentures and trust notes and trust certificates issued under a leveraged lease program. The rating agencies may, at any time, based on various factors including changing market, political or socio-economic conditions, reconsider the current rating of the Company's outstanding debt. Based on rating agency disclosures, Ferro understands that ratings changes within the general industrial sector are evaluated based on quantitative, qualitative and legal analyses. Factors considered by the rating agencies include: industry characteristics, competitive position, management, financial policy, profitability, capital structure, cash flow production and financial flexibility. S&P and Moody's have disclosed that the Company's ability to improve earnings, reduce the Company's level of indebtedness and strengthen cash flow protection measures, whether through asset sales, increased free cash flows from acquisitions or otherwise, will be factors in their ratings determinations going forward. The Company's credit facility contains customary operating covenants that limit its ability to engage in certain activities, including significant acquisitions. See further information regarding these covenants in Note 3 to the Company's consolidated financial statements under Item 8 herein. The Company's ability to meet these covenants in the future may be affected by events beyond its control, including prevailing economic, financial and market conditions and their effect on the Company's financial position and results of operations. The Company does have several options available to mitigate these circumstances, including selected asset sales and the issuance of additional capital. In September, 2003, the Company renegotiated these financial covenants to provide greater flexibility to restructure and make acquisitions and to strengthen the Company's liquidity profile.

The Company enters into precious metal leases (primarily gold, silver, platinum and palladium), which are arrangements under which banks provide the Company with precious metals for a specified period for which the Company pays a lease fee. The lease terms are generally less than one year, and the Company maintains sufficient quantities of precious metals to cover the lease obligations at all times. The leases are treated as operating leases, and lease expenses were approximately \$1.6 million for the year ended December 31, 2003. As of December 31, 2003, the fair value of precious metals under leasing arrangements was \$93.6 million. Management believes it will continue to have sufficient availability under these leasing arrangements so that it will not be required to purchase or find alternative leasing or sourcing arrangements for its precious metal inventory requirements. However, factors beyond the control of the Company including prevailing economic, financial and market conditions and their effect on the Company's financial position and results of operations, or those that management currently believes are unlikely, such as the termination of the Company's revolving credit facility, could result in non-renewal of the leases. This would impact the liquidity of the Company to the extent of the fair value of the precious metals leased.

Ferro's level of debt and debt service requirements could have important consequences to its business operations and uses of cash flow. In addition, a reduction in overall demand for the Company's products could adversely affect cash flows from operations. However, the Company has a \$300.0 million revolving credit facility of which approximately \$135.5 million was available as of December 31, 2003. This liquidity, along with the liquidity from the Company's asset securitization program of which \$148.5 was available as of December 31, 2003, and available cash flows from operations, should allow the Company to meet its funding requirements and other commitments.

The Company's aggregate amount of obligations for the next five years and thereafter is set forth below:

<u>(dollars in thousands)</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>Thereafter</u>	<u>Totals</u>
Principal repayments of long-term debt	\$ 565	411	411	51	51	350,862	352,351
Revolving credit facility	—	—	164,450	—	—	—	164,450
Obligations under non-cancelable operating leases	10,938	8,371	5,512	3,996	2,975	16,541	48,333
Accounts receivable securitization facility	—	1,460	—	—	—	—	1,460
Purchase obligations	—	—	—	—	—	—	—
Supplemental retirement plan obligations	400	400	1,400	1,400	1,400	7,500	12,500
Post retirement obligations	4,000	4,200	4,400	4,500	4,600	34,583	56,283
Pension funding *	7,900	38,100	29,000	24,100	19,000	23,023	141,123
	<u>\$ 23,803</u>	<u>\$2,942</u>	<u>205,173</u>	<u>34,047</u>	<u>28,026</u>	<u>432,509</u>	<u>776,500</u>

*Pension funding includes projected contributions for the six largest global defined benefit plans for years 2004 through 2008. Amounts included for pension funding in the United States are the ERISA minimum qualified pension plan contributions assuming the extension of funding relief by Congress. Pension funding subsequent to 2008 reflects the total projected benefit obligation less the fair value of plan assets and the funding contributions for the years 2004 through 2008.

Total pension expense, excluding supplemental plans, was \$22.5 million in 2003 compared with \$13.6 million in 2002. The increase was primarily due to a \$4.0 million increase in net amortization and deferral costs along with a net curtailment effect of \$3.0 million and \$1.6 million in higher interest costs in 2003. Contributions to the plans increased to \$30.1 million in 2003, of which \$19.7 million were made in cash and \$10.4 million in Ferro Corporation stock, from \$11.0 million in 2002, all which were made in cash. The unrecognized losses related to the plans were \$107.3 million at December 31, 2003, up from \$88.9 million at December 31, 2002.

The weighted average discount rate was 5.93% and the weighted average expected return on plan assets was 7.83% as of December 31, 2003. Pension expense, excluding supplemental plans, for 2004 is expected to increase to \$24.0 million and pension contributions are expected to decrease to \$7.9 million. A 1% increase in the actual return on plan assets would decrease the unrecognized plan losses at the end of the year by \$2.9 million. A 1% decrease in the actual return on plan assets would increase the unrecognized plan losses at the end of the year by \$2.9 million. The amount of any increase/(decrease) in unrecognized plan losses would eventually be recognized in the Company's pension expense in future years. The Company does not believe that the current funding status of the plan will cause significant business, liquidity or capital funding issues.

Impact of Recently Issued Accounting Pronouncements

In December 2003, the FASB published Interpretation No. 46R, "Consolidation of Variable Interest Entities", (Interpretation No. 46R), to clarify some of the provisions of FASB Interpretation No. 46 of the same name (Interpretation No. 46) and to exempt certain entities from its requirements. Interpretation No. 46 addresses consolidation by business enterprises of variable interest entities and requires existing unconsolidated variable interest entities to be consolidated by their primary beneficiaries if the entities do not effectively disperse risk among parties involved. It is based on the concept that companies that control another entity through interests other than voting interests should consolidate the controlled entity. Under the transition provisions of Interpretation No. 46R, special effective date provisions apply to enterprises that have fully or partially applied Interpretation No. 46 prior to issuance of Interpretation No. 46R. Otherwise, application of Interpretation No. 46 is required in financial statements of public entities that have interests in structures that are commonly referred to as special-purpose entities for periods ending after December 15, 2003; application by public entities, other than small business issuers, for all other types of variable interest entities is required in financial statements for periods ending after March 15, 2004. The Company adopted Interpretation No. 46 as of October 1, 2003. The adoption of Interpretation No. 46 did not have a material impact on the results of operations or financial position of the Company. In June 2003, the Company bought out its asset defeasance program that would have required consolidation on adoption of Interpretation No. 46.

Critical Accounting Policies

The Company has identified the critical accounting policies that are most important to the portrayal of its financial condition and results of operations. The policies set forth below require management's most subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain.

Litigation and Environmental Reserves

The Company is involved in litigation in the ordinary course of business, including personal injury, property damage and environmental matters. The Company also expends funds for environmental remediations for both Company-owned and third-party locations. In accordance with FASB Statement No. 5 "Accounting for Contingencies", and Statement of Position 96-1, "Environmental Remediation Liabilities", the Company records a loss and establishes a reserve for litigation or remediation when it is probable that an asset has been impaired or a liability exists and the amount of the liability can be reasonably estimated. Reasonable estimates involve judgments made by management after considering a broad range of information including: notifications, demand or settlements which have been received from a regulatory authority or private party, settlement of similar claims or third parties, estimates performed by independent engineering companies and outside counsel, available facts, existing and proposed technology, the identification of other potentially responsible parties and their ability to contribute and prior experience. These judgments are reviewed quarterly as more information is received and the amounts reserved are updated as necessary. However, the reserves may materially differ from ultimate actual liabilities if management's judgments regarding litigation settlements or environmental remediation are ultimately inaccurate.

Income Taxes

Deferred income taxes are provided to recognize the effect of temporary differences between financial and tax reporting. Deferred income taxes are not provided for undistributed earnings of foreign consolidated subsidiaries, to the extent such earnings are reinvested for an indefinite period of time. The Company has significant operations outside the United States, where substantial pre-tax earnings are derived, and in jurisdictions where the statutory tax rate is lower than in the United States. The Company also has significant cash requirements in the United States to pay interest and principal on borrowings. As a result, significant tax and treasury planning and analysis of future operations are necessary to determine the proper amount of tax assets, liabilities and tax expense. The Company's tax assets, liabilities and tax expense are supported by its best estimates and assumptions of its global cash requirements, planned dividend repatriations and expectations of future earnings. However, the amounts recorded may materially differ from the amounts that are ultimately payable if management's estimates of future earnings and cash flow are ultimately inaccurate.

Pension and Other Employee Benefits

Certain assumptions are used in the calculation of the actuarial valuations of the Company-sponsored defined benefit pension and post-retirement benefit plans. These assumptions include the weighted average discount rate, rates of increase in compensation levels, expected long-term rates of return on assets and increases or trends in health care costs. If actual results are less favorable than those projected by management, lower levels of benefit credit or other additional expenses may be required; however, if actual results are more favorable than those projected by management, higher levels of benefit credit or lower levels of expense may result. A 1% increase in the actual return on plan assets would decrease the unrecognized plan losses at the end of the year by \$2.9 million. A 1% decrease in the actual return on plan assets would increase the unrecognized plan losses at the end of the year by \$2.9 million. The amount of any increase/(decrease) in unrecognized plan losses would eventually be recognized in the Company's pension expense over five years.

Inventory

The Company periodically evaluates its inventory valuation based upon the age of the inventory and assumptions of future demand and market conditions. As a result of the evaluation, the inventory may be written down to the lower of cost or realizable value. If actual valuations are less favorable than those projected by management, additional write downs may be required.

Allowance for Doubtful Accounts

The Company provides for uncollectible accounts receivable based upon estimates of unrealizable amounts due from specific customers. These estimates are based upon analysis of account agings and the financial condition of the customers. If the actual future cash collections are less favorable than those projected by management, additional allowances for doubtful accounts could be required; however, if actual future cash collections are more favorable than those projected by management, established allowances for doubtful accounts could prove to be unnecessary, and would be released into income. If it is determined, based on the Company's assessment, that it is unlikely that a customer will be able to pay, the accounts receivable is charged off.

Restructuring and Cost Reduction Programs

In July 2002, the FASB issued Statement No. 146, "Accounting for Costs Associated with Exit or Disposal Activities." Statement No. 146 applies to costs from activities such as eliminating or reducing product lines, terminating employees and contracts, and relocating plant facilities or personnel. The Company adopted FASB Statement No. 146 as of January 1, 2003, and accordingly, records exit or disposal costs when they are "incurred" and can be measured at fair value. The adoption of FASB Statement No. 146 did not have an impact on the financial statements because the Company recorded restructuring and integration charges as summarized in Note 8 of the consolidated Company's financial statements using the guidance under FASB Statement No. 88, "Employers' Accounting for Settlements and Curtailments of Defined Benefit Pension Plans and for Termination Benefits" and FASB Statement No. 112, "Employers' Accounting for Postemployment Benefits."

The Company continued actions during 2003 associated with its cost reduction and integration programs. The programs affect all businesses across the Company, and generally will take no longer than twelve months to complete from the date of commencement unless certain legal or contractual restrictions on the Company's ability to complete the program exist. The Company recorded \$15.3 million of charges during 2003, which included \$13.1 million of severance benefits for employees affected by plant closings or capacity reduction, as well as various personnel in corporate, administrative or shared service functions. Termination benefits were based on various factors including length of service, contract provisions, local legal requirements and salary levels. Management estimated the charges based on these factors as well as projected final service dates. Certain changes in the original estimates may occur causing the Company to adjust the amounts reflected in the consolidated financial statements.

Off Balance Sheet Indebtedness

In 2000, the Company initiated a \$150.0 million five-year program to sell (securitize), on an ongoing basis, a pool of its trade accounts receivable. This program serves to accelerate cash collections of the Company's trade accounts receivable at favorable financing costs. Under the program, certain of the receivables of the Company are sold to a wholly owned unconsolidated special purpose entity, Ferro Finance Corporation (FFC). FFC can sell, under certain conditions, an undivided fractional ownership interest in the pool of receivables to a multi-seller receivables securitization company (conduit). Additionally, under this program, receivables of certain European subsidiaries are sold directly to other conduits. The Company and certain European subsidiaries on behalf of FFC and the conduits provide service, administration and collection of the receivables. FFC and the conduits have no recourse to the Company's other assets for failure of debtors to pay when due, and in accordance with FASB Statement No. 140 "Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities", no liability is reflected on the Company's balance sheet.

The Company retains interests in the receivables transferred to FFC and Conduits in the form of a note receivable to the extent that receivables transferred exceed advances. The note receivable balance is included in other current assets in the Company's consolidated balance sheet. The Company and certain European subsidiaries on a monthly basis measure the fair value of the retained interests at management's best estimate of the undiscounted expected future cash collections on the transferred receivables. Actual cash collections may differ from these estimates and would directly affect the fair value of the retained interests causing the Company to adjust the amounts reflected in the consolidated financial statements.

Valuation of Long-Lived Assets

The Company's long-lived assets include property, plant, equipment, goodwill and other intangible assets. Property, plant and equipment are depreciated on a straight-line basis over their estimated useful lives. The Company adopted FASB Statement No. 142 "Goodwill and Other Intangible Assets" (Statement No. 142) for goodwill and intangible assets acquired after June 30, 2001 as of July 1, 2001. Statement No. 142 was adopted in its entirety as of January 1, 2002 and accordingly, the Company's goodwill and intangible assets with indefinite useful lives are no longer being amortized. Goodwill and other intangibles with indefinite useful lives are subject to periodic impairment testing, on at least an annual basis, to determine if their carrying value exceeds fair value. Fair value is estimated using the discounted cash flow method and impairment loss is recognized for the excess of the carrying value over its implied fair value. Other identifiable intangibles include patents, trademarks, customer lists, and other items. Intangible assets with finite lives are amortized on a straight-line basis over the estimated useful lives of the assets. The Company tested its intangible assets with indefinite lives for impairments under the provisions of Statement No. 142 and determined that during 2003, no impairment had occurred.

Derivative Financial Instruments

The Company uses derivative financial instruments to manage the price risk for a portion of its forecasted requirements for natural gas. These are termed as cash flow hedges in accordance with FASB Statement No. 133, "Accounting for Derivative Instruments and Hedging Activities." The Company records these contracts on its balance sheet at fair market value. Unrealized gains or losses on the effective portion of such hedges are accounted for as a component of other comprehensive income in accordance with FASB 133.

Item 7A - Quantitative and Qualitative Disclosures about Market Risk

The Company's exposure to market risks is primarily limited to interest rate and foreign currency fluctuation risks. Ferro's exposure to interest rate risk relates primarily to its debt portfolio including off balance sheet obligations under the accounts receivable securitization program. The Company's interest rate risk management objective is to limit the effect of interest rate changes on earnings, cash flows and overall borrowing costs. To limit interest rate risk on borrowings, the Company maintains a portfolio of fixed and variable debt within defined parameters. In managing the percentage of fixed versus variable rate debt, consideration is given to the interest rate environment and forecasted cash flows. This policy limits exposure from rising interest rates and allows the Company to benefit during periods of falling rates. The Company's interest rate exposure is generally limited to the amounts outstanding under the revolving credit facility and amounts outstanding under its asset securitization program. Based on the amount of variable-rate indebtedness outstanding at December 31, 2003 and 2002, a 1% change in interest rates would have resulted in a \$1.8 million and a \$2.1 million increase in expense, respectively.

At December 31, 2003, the Company had \$350.7 million of fixed rate debt outstanding with an average interest rate of 8.5%, all maturing after 2008. The fair market value of these debt securities was approximately \$388.3 million at December 31, 2003.

The Company is also subject to price changes to its raw materials and natural gas. The Company attempts to mitigate raw materials price increases with price increases to the Company's customers and natural gas fluctuations are managed using derivative financial instruments.

Ferro manages its currency risks principally through the purchase of put options and by entering into forward contracts. Put options are purchased to protect the value of Euro-denominated earnings against a depreciation of the Euro versus the U.S. dollar. Forward contracts are entered into to mitigate the impact of currency fluctuations on transaction and other exposures.

At December 31, 2003, the Company held forward contracts to manage its foreign currency transaction exposures, which had a notional amount of \$72.3 million. The Company also held put options to sell Euros for U.S. dollars with a notional amount of \$19.0 million and an average strike price of \$1.089/Euro. At December 31, 2003, these forward contracts and options had an aggregate fair value of \$(0.8) million. A 10% appreciation of the U.S. dollar would have resulted in a \$0.1 million and \$1.6 million increase in the fair value of these contracts in the aggregate at December 31, 2003, and December 31, 2002, respectively. A 10% depreciation of the U.S. dollar would have resulted in a \$0.2 million increase and a \$1.5 million decrease in the fair value of these contracts in the aggregate at December 31, 2003, and December 31, 2002, respectively.

The Company uses derivative financial instruments to manage the price risk for a portion of its forecasted requirements for natural gas. In compliance with FASB Statement No. 133, the Company records these contracts on its balance sheet at fair market value. Unrealized gains or losses on the effective portion of such hedges are accounted for as a component of other comprehensive income in accordance with FASB Statement No. 133. These instruments, that have maturity dates that coincide with the Company's expected purchases of the natural gas, allow the Company to effectively establish its cost for gas at the time the Company enters into the instrument. To the extent the Company has not entered into derivative financial instruments, our cost of natural gas will increase or decrease as the market prices for the commodity rises and falls. The fair value of the contracts for natural gas was a gain of approximately \$0.3 million at December 31, 2003. A 10% increase or decrease in the forward prices of natural gas from the December 31, 2003, level would have resulted in a \$0.6 million corresponding change in the fair market value of the contracts as of December 31, 2003.

The Company enters into precious metal leases (primarily gold, silver, platinum and palladium), which are arrangements under which banks provide the Company with precious metals for a specified period for which the Company pays a lease fee. As of December 31, 2003, the fair value of precious metals under leasing arrangements was \$93.6 million. A 10% increase or decrease in the lease rate of precious metals from the December 31, 2003, level would have resulted in a \$0.2 million corresponding change in lease expense for the year 2003.

Item 8 – Financial Statements and Supplementary Data

Report of Independent Public Accountants

To the Shareholders and Board of Directors of Ferro Corporation:

We have audited the accompanying consolidated balance sheets of Ferro Corporation and subsidiaries (the Company) as of December 31, 2003 and 2002, and the related consolidated statements of income, shareholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2003. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We have conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Ferro Corporation and subsidiaries as of December 31, 2003 and 2002, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2003, in conformity with accounting principles generally accepted in the United States of America.

As discussed in Note 1 to the consolidated financial statements, effective July 1, 2001, the Company adopted the provisions of Statement of Financial Accounting Standards (SFAS) No.141, "Business Combinations", and certain provisions of SFAS No. 142, "Goodwill and Other Intangible Assets", as required for goodwill and intangible assets resulting from business combinations consummated after June 30, 2001. The Company adopted the remaining provisions of SFAS No. 142, as well as SFAS No.144, "Accounting for the Impairment or Disposal of Long-Lived Assets", effective January 1, 2002.

/s/ KPMG LLP

Cleveland, Ohio
February 4, 2004

Consolidated Statements of Income
Ferro Corporation and subsidiaries

Years ended December 31	(dollars in thousands, except per share data)		
	2003	2002	2001
Net sales	\$ 1,622,370	\$ 1,528,454	\$ 1,246,503
Cost of sales	1,241,096	1,143,324	929,612
Selling, administrative and general expenses	309,279	282,459	245,844
Other charges (income):			
Interest expense	35,647	41,847	33,240
Interest earned	(892)	(1,036)	(2,572)
Foreign currency transactions, net	2,239	402	(19,953)
Miscellaneous expense, net	10,758	12,878	12,859
Income before taxes	24,243	48,580	47,473
Income tax expense	6,863	14,833	17,461
Income from continuing operations	17,380	33,747	30,012
Discontinued operations:			
Income (loss) from discontinued operations, net of tax	(923)	6,172	9,185
Gain on disposal of discontinued operations, net of tax	3,094	33,804	—
Net income	19,551	73,723	39,197
Dividends on preferred stock	2,088	2,447	3,078
Net income available to common shareholders	\$ 17,463	\$ 71,276	\$ 36,119
Per common share data			
Basic earnings			
From continuing operations	\$ 0.38	\$ 0.82	\$ 0.79
From discontinued operations	0.05	1.04	0.26
	\$ 0.43	\$ 1.86	\$ 1.05
Diluted earnings			
From continuing operations	\$ 0.38	\$ 0.81	\$ 0.79
From discontinued operations	0.05	0.98	0.25
	\$ 0.43	\$ 1.79	\$ 1.04

See accompanying notes to consolidated financial statements.

Consolidated Balance Sheets
Ferro Corporation and subsidiaries

	(dollars in thousands)	
December 31	2003	2002
Assets		
Current assets		
Cash and cash equivalents	\$ 23,419	\$ 14,942
Accounts and trade notes receivable	195,729	154,533
Notes receivable	97,466	23,997
Inventories	181,604	183,055
Assets of businesses held for sale	—	27,046
Deferred tax assets	39,942	33,001
Other current assets	43,883	49,011
Total current assets	582,043	485,585
Net property, plant and equipment	608,484	577,754
Other assets		
Unamortized intangibles	421,313	421,274
Deferred tax assets	62,986	53,517
Miscellaneous other assets	76,400	66,343
Total assets	\$1,751,226	\$1,604,473
Liabilities and Shareholders' Equity		
Current liabilities		
Notes and loans payable	\$ 12,404	\$ 7,835
Accounts payable	231,652	207,873
Income taxes	15,058	15,645
Accrued payrolls	28,050	33,826
Liabilities of businesses held for sale	—	12,518
Accrued expenses/other current liabilities	125,931	126,470
Total current liabilities	413,095	404,167
Other liabilities		
Long-term liabilities, less current portion	516,236	443,552
Post-retirement and pension liabilities	224,439	220,905
Other non-current liabilities	71,535	63,353
Shareholders' equity		
Serial convertible preferred stock, without par value Authorized 2,000,000 shares; 1,520,215 shares issued	70,500	70,500
Common stock, par value \$1 per share Authorized 300,000,000 shares; 52,323,053 shares issued	52,323	52,323
Paid-in capital	157,221	153,115
Retained earnings	612,976	619,006
Accumulated other comprehensive loss	(85,790)	(130,929)
Other	(6,516)	(6,118)
	800,714	757,897
Less: Cost of treasury stock:		
Common – 10,865,691 and 11,807,021 shares for 2003 and 2002, respectively	232,235	247,530
Preferred – 916,773 and 815,713 shares for 2003 and 2002, respectively	42,558	37,871
Total shareholders' equity	525,921	472,496
Commitments and contingencies		
Total liabilities and shareholders' equity	\$1,751,226	\$1,604,473

See accompanying notes to consolidated financial statements.

Consolidated Statements of Shareholders' Equity

Ferro Corporation and subsidiaries

(dollars in thousands)

	Preferred stock	Common stock	Paid-in capital	Retained earnings	Accumulated other comprehensive income (loss) (a)	Common stock held in treasury	Preferred stock held in treasury	Other	Total shareholders' equity (b)
Balances at December 31, 2000	\$ 70,500	47,323	21,606	552,980	(85,678)	(266,858)	(22,983)	(7,732)	309,158
Comprehensive income									
Net income				39,197					39,197
Other comprehensive income (loss), net of tax(a)									
Foreign currency translation adj.					(17,330)				(17,330)
Minimum pension liability adj.					(4,667)				(4,667)
Other comprehensive income (loss)					(21,997)				(21,997)
Comprehensive income				39,197	(21,997)				17,200
Cash dividends(c):									
Common				(19,855)					(19,855)
Preferred				(3,078)					(3,078)
Federal tax benefits				78					78
Transactions involving benefit plans			780			9,668	(5,014)	(641)	4,793
Purchase of treasury stock						(7,910)			(7,910)
Balances at December 31, 2001	\$ 70,500	47,323	22,386	569,322	(107,675)	(265,100)	(27,997)	(8,373)	300,386
Comprehensive income									
Net income				73,723					73,723
Other comprehensive income (loss), net of tax(a)									
Foreign currency translation adj.					20,364				20,364
Minimum pension liability adj.					(43,618)				(43,618)
Other comprehensive income (loss)					(23,254)				(23,254)
Comprehensive income				73,723	(23,254)				50,469
Issuance of common stock		5,000	126,540						131,540
Cash dividends(c):									
Common				(21,651)					(21,651)
Preferred				(2,447)					(2,447)
Federal tax benefits				59					59
Transactions involving benefit plans			4,189			17,994	(9,874)	2,255	14,564
Purchase of treasury stock						(424)			(424)
Balances at December 31, 2002	\$ 70,500	52,323	153,115	619,006	(130,929)	(247,530)	(37,871)	(6,118)	472,496
Comprehensive income									
Net income				19,551					19,551
Other comprehensive income (loss), net of tax(a)									
Foreign currency translation adj.					54,560				54,560
Natural gas contracts & Other adj.					227				227
Minimum pension liability adj.					(9,648)				(9,648)
Other comprehensive income (loss)					45,139				45,139
Comprehensive income				19,551	45,139				64,690
Cash dividends(c):									
Common				(23,552)					(23,552)
Preferred				(2,088)					(2,088)
Federal tax benefits				59					59
Transactions involving benefit plans			4,106			15,295	(4,687)	(398)	14,316
Purchase of treasury stock									
Balances at December 31, 2003	\$ 70,500	52,323	157,221	612,976	(85,790)	(232,235)	(42,558)	(6,516)	525,921

(a) Accumulated translation adjustments were \$(25,750), \$(80,310) and \$(100,674), accumulated minimum pension liability adjustments were \$(60,267), \$(50,619) and \$(7,001) and accumulated natural gas contracts & Other adjustments were \$227, \$0 and \$0 at December 31, 2003, 2002, and 2001, respectively.

(b) Income tax (expense) benefits related to stock options, performance plans, pensions and natural gas forwards were \$5,505, \$24,376 and \$(1,875) in 2003, 2002 and 2001, respectively.

(c) Dividends per share of common stock were \$0.58 for 2003, 2002 and 2001. Dividends per share of preferred stock were \$3.75 for 2003, 2002 and 2001.

See accompanying notes to consolidated financial statements.

Consolidated Statements of Cash Flows

Ferro Corporation and subsidiaries

Years ended December 31

(dollars in thousands)

	2003	2002	2001
Cash flows from operating activities			
Net income	\$ 19,551	73,723	39,197
Adjustments to reconcile net income to net cash provided by operating activities			
(Income)Loss from discontinued operations	923	(6,172)	(9,185)
Gain on sale of discontinued operations	(3,094)	(33,804)	—
Depreciation and amortization	70,385	64,252	60,474
Deferred income taxes	(4,449)	5,470	(959)
Changes in current assets and liabilities, net of effects of acquisitions			
Accounts and trade notes receivable	(38,234)	(1,806)	53,332
Inventories	1,455	23,797	73,148
Other current assets	2,605	14,600	(2,634)
Accounts payable	23,827	24,895	(7,169)
Accrued expenses and other current liabilities	(5,087)	(17,914)	(15,074)
Other operating activities	18,891	4,201	(4,621)
Net cash provided by continuing operations	86,773	151,242	186,509
Net cash provided by (used for) discontinued operations	(1,068)	17,389	32,927
Net cash provided by operating activities	85,705	168,631	219,436
Cash flow from investing activities			
Capital expenditures for plant and equipment of continuing operations	(35,702)	(38,465)	(44,073)
Capital expenditures for plant and equipment of discontinued operations	(381)	(2,147)	(9,735)
(Acquisition)divestitures, net of cash	12,307	131,500	(513,069)
Buy-out of operating lease	(25,000)	—	—
Other investing activities	513	(389)	6,456
Net cash provided by (used for) investing activities	(48,263)	90,499	(560,421)
Cash flow from financing activities			
Proceeds from issuance of common stock	—	131,540	—
Net borrowings (payments) under short-term facilities	4,569	(11,671)	(60,772)
Borrowings under capital markets facility	—	—	300,000
Repayment of capital markets facility	—	(103,555)	(196,445)
Proceeds from long-term debt	670,092	747,691	651,445
Principal payments on long-term debt	(598,514)	(1,034,356)	(277,670)
Net proceeds (payments) from asset securitization	(84,238)	20,388	(23,590)
Purchase of treasury stock	—	(424)	(7,910)
Cash dividends paid	(25,640)	(24,098)	(22,933)
Other financing activities	3,813	11,580	(4,790)
Net cash provided by (used for) financing activities	(29,918)	(262,905)	357,335
Effect of exchange rate changes on cash	953	3,400	(1,810)
Increase (Decrease) in cash and cash equivalents	8,477	(375)	14,540
Cash and cash equivalents at beginning of period	14,942	15,317	777
Cash and cash equivalents at end of period	\$ 23,419	14,942	15,317
 Cash paid during the period for			
Interest	\$ 33,228	31,078	28,482
Income taxes	\$ 11,871	18,007	15,834

See accompanying notes to consolidated financial statements.

Notes to Consolidated Financial Statements
Ferro Corporation and subsidiaries
Years ended December 31, 2003, 2002 and 2001

1. Summary of significant accounting policies

Nature of Operations

Ferro Corporation is a worldwide producer of performance materials for manufacturers. Ferro produces a variety of coatings and performance chemicals by utilizing organic and inorganic chemistry. The Company's materials are used extensively in the markets of building and renovation, automotive, major appliances, household furnishings, transportation, electronics and industrial products. Ferro's products are sold principally in the United States and Europe; however, operations also extend to the Latin America and Asia Pacific regions.

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its consolidated subsidiaries after elimination of inter-company accounts, transactions and profits. Minority interests in consolidated subsidiaries are classified in other non-current liabilities. Certain amounts in the 2001 financial statements and the accompanying notes have been reclassified to conform to the 2002 and 2003 presentation. Financial results for acquisitions are included in the Company's consolidated financial statements from the date of acquisition.

Translation of Foreign Currencies

Except for international subsidiaries whose functional currency is the U.S. dollar, financial statements of international subsidiaries are translated to U.S. dollar equivalents at the following exchange rates: (1) balance sheet accounts at year-end rates; (2) income statement accounts at exchange rates weighted by the monthly volume of transactions occurring during the year. Translation gains and losses are recorded in shareholders' equity as a component of accumulated other comprehensive income, and transaction gains and losses are reflected in net income.

For subsidiaries that use the U.S. dollar as the functional currency, remeasurement and transaction gains and losses are reflected in net income.

Cash Equivalents

Cash equivalents consist of highly liquid instruments with a maturity of three months or less and are carried at cost, which approximates market value.

Revenue Recognition

Sales revenue is recognized when goods are shipped and title has transferred to the customer.

Risk Management Derivatives

Derivatives primarily consist of foreign currency forward exchange contracts and foreign currency options. Gains and losses on foreign currency forward exchange contracts and foreign currency options are recognized as foreign currency transaction gains and losses.

The Company uses derivative financial instruments to manage the price risk for a portion of its forecasted requirements for natural gas. These are termed as cash flow hedges in accordance with Financial Accounting Standards Board (FASB) Statement No. 133, "Accounting for Derivative Instruments and Hedging Activities." The Company records these contracts on its balance sheet at fair market value. Unrealized gains or losses on the effective portion of such hedges are accounted for as a component of other comprehensive income in accordance with FASB Statement No. 133.

Use of Estimates in the Preparation of Financial Statements

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Accounts and Trade Notes Receivable

The Company provides for an allowance on uncollectible accounts based upon estimates of unrealizable amounts due from specific customers. These estimates are based upon analysis of account agings and the financial condition of customers. All accounts deemed to be uncollectible or to require an excess collection cost are written off to the allowance for uncollectible accounts. Reserves for possible losses in the collection of accounts and trade notes receivable totaled \$8.7 million and \$11.6 million at December 31, 2003 and 2002, respectively. Bad debt expense was \$0.9 million, \$2.2 million and \$2.8 million for 2003, 2002 and 2001, respectively.

Inventories

Inventories are valued at the lower of cost or market. Cost is determined utilizing the first-in, first-out (FIFO) method, except for selected inventories where the last-in, first-out (LIFO) method is used.

Long-Lived Assets

The Company adopted the amortization provisions of FASB Statement No. 142 "Goodwill and Other Intangible Assets" (Statement No. 142) for goodwill and intangible assets acquired after June 30, 2001 as of July 1, 2001. Statement No. 142 was adopted in its entirety as of January 1, 2002 and accordingly, the Company's goodwill and other intangible assets with indefinite useful lives are no longer amortized. Goodwill and other intangibles with indefinite useful lives are subject to periodic impairment testing, on at least an annual basis, to determine if their carrying value exceeds its implied fair value. Fair value is estimated using the discounted cash flow method and impairment loss is recognized for the excess of the carrying value over fair value. The Company tests goodwill for impairment at the reporting unit level which is a component of (i.e., one level below) an operating segment. A reporting unit is a business for which discrete financial information is available and for which operating results are subject to regular review by operating management. Other identifiable intangibles include patents, trademarks, customer lists, and other items. Intangible assets with finite lives are amortized on a straight-line basis over the estimated useful lives of the assets. The Company tested its intangible assets with indefinite lives for impairments under the provisions of Statement No. 142 and determined that during 2003, no impairment had occurred.

Had the Company been accounting for goodwill and certain other intangible assets under Statement No. 142 for all periods presented, the Company's net income and earnings per common share would have been as follows:

	Years ended December 31,		
(dollars in thousands, except per share amounts)	2003	2002	2001
Net income from continuing operations:			
As reported	\$ 17,380	33,747	30,012
Add back amortization expense, net of tax	—	—	4,160
Adjusted net income	\$ 17,380	33,747	34,172
Basic earnings per share from continuing operations			
As reported	\$ 0.38	0.82	0.79
Add back amortization expense, net of tax	—	—	0.12
Adjusted basic earnings per share from continuing operations	\$ 0.38	0.82	0.91
As reported	\$ 0.38	0.81	0.79
Add back amortization expense, net of tax	—	—	0.11
Adjusted diluted earnings per share from continuing operations	\$ 0.38	0.81	0.90
Income(loss) from discontinued operations:			
As reported	\$ 2,171	39,976	9,185
Add back amortization expense, net of tax	—	—	339
Adjusted net income	\$ 2,171	39,976	9,524
Basic earnings per share from discontinued operations			
As reported	\$ 0.05	1.04	0.26
Add back amortization expense, net of tax	—	—	0.01
Adjusted basic earnings per share from discontinued operations	\$ 0.05	1.04	0.27
Diluted earnings per share from discontinued operations			
As reported	\$ 0.05	0.98	0.25
Add back amortization expense, net of tax	—	—	0.01
Adjusted diluted earnings per share from discontinued operations	\$ 0.05	0.98	0.26

Property, plant and equipment are carried at cost. Depreciation of plant and equipment is provided on a straight-line basis for financial reporting purposes. The annual depreciation provision is based on the following estimated useful lives:

Buildings	20 to 40 years
Machinery and equipment	5 to 15 years

Property, plant and equipment are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. In the event of impairment, a loss is recognized for the excess of the recorded amount over fair value. Impairment is measured based on estimated net undiscounted future cash flow from the use and eventual disposition of the assets.

Asset Securitization

Certain of the receivables of the Company are sold to a wholly-owned unconsolidated qualified special purpose entity, Ferro Finance Corporation (FFC). FFC can sell, under certain conditions, an undivided fractional ownership interest in the pool of receivables to a multi-seller receivables securitization company (Conduit). Additionally, under this program, receivables of certain European subsidiaries are sold directly to other conduits. Amounts borrowed under the program are not recorded on the balance sheet in accordance with FASB Statement No. 140, "Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities." The Company and certain European subsidiaries, on behalf of FFC and the Conduits provide service, administration and collection of the receivables. In accordance with Statement No. 140, no servicing liability is reflected on the balance sheet.

The Company retains interest in the receivables transferred to FFC and the Conduits in the form of notes receivable to the extent that receivables transferred exceed advances. FFC and the Conduits have no recourse to the Company's other assets for failure of debtors to pay when due. The Company and certain European subsidiaries, on a monthly basis, measure the fair value of the notes receivable based on management's best estimate of the undiscounted expected future cash collections on the transferred receivables.

Environmental Costs

The Company expenses recurring costs associated with control and disposal of hazardous materials in current operations. Costs associated with the remediation of environmental pollution are accrued when it becomes probable that a liability has been incurred and the costs can be reasonably estimated. The Company determines such costs based on the Company's stated or estimated contribution to each site and the estimated total clean-up costs of each site. The costs are not discounted due to the uncertainty with respect to the timing of related payments. The Company actively monitors the actual and anticipated spending at each site in which it is involved and adjusts related accruals when circumstances indicate a change from previously stated or estimated amounts.

Assets and Liabilities Held for Sale

Assets and liabilities held for sale are stated at lower of carrying value or management's estimates of net realizable value and are classified separately on the Company's consolidated balance sheets in accordance with FASB Statement No. 144, "Accounting for the Impairment of Disposal of Long-lived Assets."

Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences, measured on the basis of enacted rates, attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized. Deferred tax assets and liabilities are adjusted for the effects of changes in tax laws and rates on the date of enactment.

Earnings per Share

Basic earnings per share are based on a weighted average of common shares outstanding. Diluted earnings per share reflect the potential dilution of earnings per share assuming that certain stock options whose exercise price is less than the average market price of the stock are exercised and that convertible preferred shares are converted into common shares.

Stock-based Compensation

As permitted by FASB Statement No. 148, "Accounting for Stock-based Compensation – Transition and Disclosure", the Company accounts for stock-based employee compensation using the intrinsic value method in accordance with Accounting Principles Board Opinion (APB) No. 25 "Accounting for Stock Issued to Employees", FASB Interpretation No. 44 "Accounting for Certain Transactions Involving Stock-Based Compensation, an Interpretation of APB Opinion No. 25," and related interpretations. Expense associated with stock-based compensation awards, if any, is amortized over the vesting period of each individual award. The Company adopted the annual disclosure provisions of Statement No. 148 as of January 1, 2003, and accordingly has included the required disclosure for the periods ended on December 31, 2003, 2002 and 2001 in Note 4 to the condensed financial statements.

In December 2003, the FASB published Interpretation No. 46R, "Consolidation of Variable Interest Entities", (Interpretation No. 46R), to clarify some of the provisions of FASB Interpretation No. 46 of the same name (Interpretation No. 46) and to exempt certain entities from its requirements. Interpretation No. 46 addresses consolidation by business enterprises of variable interest entities and requires existing unconsolidated variable interest entities to be consolidated by their primary beneficiaries if the entities do not effectively disperse risk among parties involved. It is based on the concept that companies that control another entity through interests other than voting interests should consolidate the controlled entity. Under the transition provisions of Interpretation No. 46R, special effective date provisions apply to enterprises that have fully or partially applied Interpretation No. 46 prior to issuance of Interpretation No. 46R. Otherwise, application of Interpretation No. 46 is required in financial statements of public entities that have interests in structures that are commonly referred to as special-purpose entities for periods ending after December 15, 2003; application by public entities, other than small business issuers, for all other types of variable interest entities is required in financial statements for periods ending after March 15, 2004. The Company adopted Interpretation No. 46 as of October 1, 2003. The adoption of Interpretation No. 46 did not have a material impact on the results of operations or financial position of the Company. In June 2003, the Company bought out its asset defeasance program that would have required consolidation on adoption of Interpretation No. 46.

2. Inventories

Inventories are comprised of the following as of December 31, 2003 and 2002:

(dollars in thousands)	2003	2002
Raw materials	43,859	42,177
Work in process	23,811	17,755
Finished goods	123,951	133,328
	191,621	193,260
LIFO reserve	(10,017)	(10,205)
Total	181,604	183,055

The portion of inventories valued by the LIFO method at December 31, 2003 and 2002 are as follows:

	2003	2002
United States and Canada	15.4%	20.5%
Consolidated	6.5%	10.1%

LIFO reserve decreased by \$0.2 million in 2003, compared with an increase of \$0.7 million in 2002.

3. Financing and long-term debt

Long-term debt at December 31, 2003 and 2002 is as follows:

(dollars in thousands)	2003	2002
Senior Notes 9.125%, due 2009	\$196,937	196,324
Debentures, 7.125%, due 2028	54,490	54,469
Debentures, 7.625%, due 2013	24,853	24,843
Debentures, 8.0%, due 2025	49,503	49,480
Debentures, 7.375%, due 2015	24,957	24,954
Revolving credit agreements	164,450	91,900
Other	1,611	2,464
	516,801	444,434
Less: Current portion(a)	565	882
Total	\$516,236	443,552

(a)Included in notes and loans payable.

The aggregate principal payments on long-term indebtedness for the next five years are as follows:

(dollars in thousands)

2004	2005	2006	2007	2008
\$565	411	164,861	51	51

At December 31, 2003, the Company had \$355.0 million principal amount outstanding under debentures and senior notes, which had an estimated fair market value of \$388.3 million.

In September 2001, the Company entered into new unsecured senior credit facilities. The senior credit facilities included a \$373.0 million five-year revolving credit facility and a \$187.0 million 364-day revolving credit facility. The 364-day facility expired on September 6, 2002. Using the net proceeds from the sale of the Powder Coatings business, in September 2002, the Company repaid \$132.0 million of the five-year facility and effectively reduced the maximum borrowings thereunder to \$300.0 million. The Company had borrowed \$164.5 million under the five-year revolving credit facility as of December 31, 2003.

At the Company's option, borrowings under the five-year credit facility bear interest at a rate equal to (1) LIBOR, or (2) the greater of the prime rate established by National City Bank, Cleveland, Ohio, and the Federal Funds effective rate plus 0.5% (Prime Rate); plus, in each case, applicable margins based upon a combination of the Company's index debt rating and the ratio of the Company's total debt to EBITDA (earnings before interest, taxes, depreciation and amortization). The interest rate in effect at December 31, 2003 and 2002 for the five-year facility were 2.90% and 2.54%, respectively.

The Company's credit facility contains customary operating covenants that limit its ability to engage in certain activities, including significant acquisitions. Several of the covenants contain additional restrictions based upon the ratio of total debt to EBITDA or in the event the Company's senior debt is downgraded below Ba2 by Moody's Investor Service (Moody's) or BB by Standard & Poor's Rating Group (S&P). The credit facilities also contain financial covenants relating to minimum fixed charge coverage ratios over certain periods of time. In September 2003, the Company renegotiated these covenants to provide greater flexibility and strengthen the Company's liquidity profile. The Company's ability to meet these covenants in the future may be affected by events beyond its control, including prevailing economic, financial and market conditions and their effect on the Company's financial position and results of operations. The Company does have several options available to mitigate these circumstances, including selected asset sales and the issuance of additional share capital.

Obligations under the revolving credit facility are unsecured; however, if the Company's senior credit rating is downgraded below BB by S&P or Ba2 by Moody's, the Company and its material subsidiaries would be required to grant, within 30 days from such a rating downgrade, security interests in their principal manufacturing facilities, pledge 100% of the stock of domestic material subsidiaries and pledge 65% of the stock of foreign material subsidiaries, in each case, in favor of the lenders under the senior credit facility. In that event, liens on principal domestic manufacturing properties and the stock of domestic subsidiaries would be shared with the holders of the Company's senior notes and debentures.

The Company's level of debt and debt service requirements could have important consequences to the Company's business operations and uses of cash flows. In addition, a reduction in overall demand for the Company's products could adversely affect the Company's cash flows from operations. However, the Company has a \$300.0 million revolving credit facility, under which approximately \$135.5 million was available as of December 31, 2003. This liquidity, along with liquidity from the Company's asset securitization program and the available cash flows from operations, should allow the Company to meet its funding requirements and other commitments.

In 2000, the Company initiated a \$150.0 million five-year program to sell (securitize), on an ongoing basis, a pool of its trade accounts receivable. This program serves to accelerate realization of the Company's trade accounts receivable at favorable financing costs. Under this program, certain of the receivables of the Company are sold to a wholly-owned unconsolidated qualified special purpose entity, Ferro Finance Corporation (FFC). FFC can sell, under certain conditions, an undivided fractional ownership interest in the pool of receivables to a multi-seller receivables securitization company (Conduit). Additionally, under this program, receivables of certain European subsidiaries are sold directly to the other conduits. At December 31, 2002, \$85.7 million had been advanced to the Company, net of repayments, under this program. During the twelve months ended December 31, 2003, \$1,050.2 million of accounts receivable were sold under this program and \$1,134.4 million of receivables were collected and remitted to the conduits, resulting in a net reduction in borrowings of \$84.2 million and total advances outstanding at December 31, 2003 of \$1.5 million.

The Company and certain European subsidiaries on behalf of FFC and the Conduits provide service, administration and collection of the receivables. FFC and the Conduits have no recourse to the Company's other assets for failure of debtors to pay when due and in accordance with Statement No. 140, no liability is reflected on the Company's balance sheet. The accounts receivable securitization facility contains a provision under which the agent can terminate the facility if the Company's senior credit rating is downgraded below BB by S&P or Ba2 by Moody's. The termination of this program at December 31, 2003, would have reduced the Company's liquidity to the extent that the total program of \$150.0 million exceeded advances outstanding of \$1.5 million. The liquidity from the Company's revolving credit facility of \$300.0 million under which \$135.5 million was available at December 31, 2003, and the available cash flows from operations, should allow the Company to meet its funding requirements and other commitments if this program was terminated.

The Company retains interest in the receivables transferred to FFC and Conduits in the form of a note receivable to the extent that receivables transferred exceed advances. The note receivable balance was \$91.8 million as of December 31, 2003, and \$23.8 million as of December 31, 2002. The Company and certain European subsidiaries, on a monthly basis, measure the fair value of the notes receivable at management's best estimate of the undiscounted expected future cash collections on the transferred receivables. Actual cash collections may differ from these estimates and would directly affect the fair value of the notes receivable.

The maintenance of minimum cash balances is informally agreed to with certain banks as a result of loans, commitments and services rendered. Cash balances maintained to meet operating needs on a daily basis are sufficient to satisfy these informal agreements. These balances are available for use by the Company and its subsidiaries at all times and do not contain legal restrictions. Cash in excess of such operating requirements is invested in short-term securities.

4. Stock Based Compensation Plans

In April 2003, shareholders of the Company approved the 2003 Long-Term Incentive Compensation Plan (the Plan). The Plan authorizes several different types of long-term incentives. The available incentives include stock options, stock appreciation rights, restricted shares, performance shares and common stock awards. The shares of common stock to be issued under the Plan may be either authorized but unissued shares or shares held as treasury stock. The number of shares of common stock reserved for awards under the Plan is 3,250,000 shares.

The effective date of the 2003 Long-Term Incentive Compensation Plan is January 1, 2003. No further grants may be made under Ferro's previous Employee Stock Option Plans or under Ferro's 1997 Performance Share Plan. Outstanding options and performance shares shall not be affected by the Plan. The effective date of the 2003 Long-Term Incentive Compensation Plan is January 1, 2003.

Previous Employee Stock Option Plans and a 1997 Performance Share Plan authorized different types of long-term incentives, including stock options, stock appreciation rights, performance shares and common stock awards. No further grants may be made under Ferro's previous Employee Stock Option Plans or under Ferro's 1997 Performance Share Plan. However, any outstanding awards or grants made under these plans will continue until the end of their specified term.

Employee Stock Options

Information pertaining to previous Employee Stock Option Plans is shown below:

	Number of Options	Number of Options	Weighted Average Exercise Price
Stock Option Transactions in 2001			
Outstanding January 1		3,421,318	\$ 20.04
Exercisable January 1	2,024,746		\$ 19.45
Granted in 2001		697,875	\$ 23.39
Exercised in 2001		(298,517)	\$ 23.37
Canceled in 2001		(116,659)	\$ 21.41
Options available for future grants	1,268,501		
Stock Option Transactions in 2002			
Outstanding January 1		3,704,017	\$ 20.84
Exercisable January 1	2,256,769		\$ 20.12
Granted in 2002		857,150	\$ 25.52
Exercised in 2002		(633,777)	\$ 19.67
Canceled in 2002		(113,208)	\$ 23.32
Options available for future grants	524,559		
Stock Option Transactions in 2003			
Outstanding January 1		3,814,182	\$ 21.86
Exercisable January 1	2,329,903		\$ 20.62
Granted in 2003		—	—
Exercised in 2003		(202,833)	\$ 20.56
Canceled in 2003		(169,341)	\$ 24.05
Options at December 31, 2003			
Outstanding		3,442,008	\$ 21.82
Exercisable	2,622,887		\$ 21.06

Long-Term Incentive Plan

Information pertaining to the 2003 Long-Term Incentive Plan is as follows:

	Number of Options	Number of Options	Weighted Average Share Price
Initial plan shares available for issuance:		3,250,000	
Stock Option Transactions in 2003			
Outstanding January 1		—	—
Granted in 2003		830,800	\$ 21.44
Exercised in 2003		—	—
Canceled in 2003		(63,000)	\$ 21.26
Outstanding December 31		767,800	\$ 21.46
Exercisable December 31	4,500		\$ 21.26
Performance Shares Transactions in 2003			
Granted in 2003		135,500	\$ 21.26
Canceled in 2003		(8,500)	\$ 21.26
Outstanding December 31		127,000	
Plan shares available for issuance 12/31/03:		2,355,200	

Significant option groups outstanding at December 31, 2003 and the related weighted-average price for the exercisable options and remaining life information are as follows:

Range of Exercise Prices	Options Outstanding			Options Exercisable	
	Outstanding as of 12/31/2003	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Exercisable as of 12/31/2003	Weighted Average Exercise Price
\$14.00-17.00	394,664	1.7	15.83	394,664	15.83
\$17.01-22.00	795,429	4.6	19.09	701,691	19.12
\$22.01-27.00	2,903,005	6.8	23.02	1,432,844	22.93
\$27.01-30.00	116,710	4.8	28.43	98,188	28.47
	4,209,808	5.9	21.76	2,627,387	21.06

The weighted-average fair market value at date of grant for options granted during 2003, 2002 and 2001 was \$7.12, \$7.60 and \$7.56 per option, respectively. The fair market value of options at date of grant was estimated using the Black-Scholes model with the following weighted-average assumptions:

	2003	2002	2001
Expected life (years)	7.35	7.60	8.00
Interest rate (%)	4.02	4.61	5.49
Volatility	28.40	28.90	28.40
Dividend yield (%)	2.43	2.18	2.56

On a pro forma basis, had compensation cost for the Company's stock option plan been determined based on the fair value at the grant date under the fair value recognition provisions of FASB Statement No. 123 "Accounting for Stock-Based Compensation," the Company's net income and earnings per share would have been reduced to the pro forma amounts shown below:

(dollars in thousands, except per share data)	2003	2002	2001
Income from continuing operations—as reported *	\$ 17,380	33,747	30,012
Deduct: Total stock-based employee compensation expense determined under fair value methods for all awards, net of tax	(3,263)	(3,564)	(3,074)
Income from continuing operations—pro forma	\$ 14,117	30,183	26,938
Basic earnings per share from continuing operations—as reported	\$ 0.38	0.82	0.79
Basic earnings per share from continuing operations—pro forma	0.30	0.73	0.71
Diluted earnings per share from continuing operations—as reported	\$ 0.38	0.81	0.79
Diluted earnings per share from continuing operations—pro forma	\$ 0.29	0.72	0.70

* Includes \$0.1 million, net of tax, for expense recognized in accordance with APB No. 25 "Accounting for Stock Issued to Employees" with the granting of stock options in 2003.

There was no impact of the pro forma expense on discontinued operations for 2003, 2002, or 2001.

The Company maintains a performance share plan whereby awards, expressed as shares of common stock of the Company, are earned only if the Company meets specific performance targets over a three-year period. The plan pays 50% cash and 50% common stock for the value of any earned performance shares. Performance share awards in the amount of 353,850 shares, 366,950 shares and 417,950 shares were outstanding at the end of 2003, 2002 and 2001, respectively. The Company accrues amounts based on performance reflecting fair the value of cash and common stock, which is anticipated to be earned. The effect of the plan on the Company's operations was expenses of \$1.2 million, \$2.6 million and \$0.2 million in 2003, 2002 and 2001, respectively.

The ESOP provides for the Company to match eligible employee pre-tax savings. Amounts expensed for continuing operations under the ESOP were \$4.8 million, \$4.6 million and \$3.6 million in 2003, 2002 and 2001, respectively.

5. Capital stock

In May 2002 the Company issued 5,000,000 shares of common stock at a price of \$27.75 per share. The total proceeds of \$138.8 million, less underwriting commissions and expenses, were used to reduce then outstanding bank borrowings.

In 1989, Ferro issued 1,520,215 shares of 7% Series A ESOP Convertible Preferred Stock to National City Bank, trustee for the Ferro ESOP. The shares were issued at a price of \$46.375 per share for a total consideration of \$70.5 million. Each share of ESOP convertible preferred stock is convertible into 2.5988 shares of common stock. As of December 31, 1999, all of the preferred shares were allocated to participating individual employee accounts. The Company is required to repurchase at the original issue price, for cash or common stock at the Company's option, the preferred shares allocated to an employee's ESOP account upon distribution of such account to the employee unless such shares have been converted to common stock. Each preferred share carries one vote, voting together with the common stock on most matters.

The Company did not purchase common stock on the open market in 2003 and purchased 16,381 shares of common stock in 2002 at an aggregate cost of \$0.4 million. At December 31, 2003, the Company had remaining authorization to acquire 4,201,216 shares under its current treasury stock purchase program.

The Company maintains a Shareholder Rights Plan (the Plan) whereby, until the occurrence of certain events, each share of the outstanding common stock represents ownership of one right (Right). The Rights become exercisable only if a person or group acquires 20% or more of the Company's common stock (10% under certain circumstances) or commences a tender or exchange offer upon consummation of which such person or group would control 20% or more of the common shares or is declared an Adverse Person (as defined in the Plan) by the Board of Directors. The Rights, which do not have the right to vote or receive dividends, expire on April 8, 2006. Rights may be redeemed by the Company at \$0.03 1/3 per Right at any time until the 15th day following public announcement that a person or group has acquired 20% or more of the voting power, unless such period is extended by the Board of Directors while the Rights are redeemable.

If any person becomes the owner of 20% or more of the common stock (10% under certain circumstances), or if the Company is the surviving corporation in a merger with a 20% or more stockholder and its common shares are not changed or converted, or if a 20% or more stockholder engages in certain self-dealing transactions with the Company, then each Right not owned by such person or related parties will entitle its holder to purchase shares of common stock at a purchase price of 50% of the then current market price of the common stock up to a value of \$73.33 per Right.

In the event the Company engages in a merger or other business combination transaction in which the Company is not the surviving corporation or the Company is the surviving corporation but its common stock is changed or exchanged or 50% or more of the Company's assets or earning power is sold or transferred, each holder of a Right shall have the right to receive, upon exercise thereof at the then current exercise price of the Right, that number of shares of common stock of the surviving company which at the time of the transaction would have a market value of two times the exercise price of the Right.

6. Earnings per share computation

Information concerning the calculation of basic and diluted earnings per share is shown below:

(dollars in thousands, except per share amounts)	2003	2002	2001
<i>Basic earnings per share computation:</i>			
Numerator			
Net income available to common shareholders	\$17,463	71,276	36,119
Less: Income (loss) from discontinued operations	2,171	39,976	9,185
	15,292	31,300	26,934
Denominator:			
Weighted-average common shares outstanding	40,906	38,277	34,246
Basic earnings per share from continuing operations	0.38	0.82	0.79
<i>Diluted earnings per share computation:</i>			
Numerator:			
Net income available to common shareholders	\$17,463	71,276	36,119
Less: Income (loss) from discontinued operations	2,171	39,976	9,185
Plus: Convertible preferred stock	—	1,988	2,501
	15,292	33,288	29,435
Denominator:			
Weighted-average common shares outstanding	40,906	38,277	34,246
Convertible preferred stock	—	1,992	2,488
Options	184	740	385
Total shares	41,090	41,009	37,119
Diluted earnings per share from continuing operations	\$ 0.38	0.81	0.79

The convertible preferred shares were anti-dilutive for the twelve months ended December 31, 2003 and thus not included in the diluted shares outstanding.

7. Acquisitions and divestitures

On September 7, 2001, the Company acquired from OM Group, Inc. (OMG) certain businesses previously owned by dmc² Degussa Metals Catalysts Cerdec AG (dmc²) pursuant to an agreement to purchase certain assets of dmc², including shares of certain of its subsidiaries. The Company paid \$8.5 million in cash for certain purchase price settlements with dmc² in the first quarter of 2003.

The following unaudited proforma financial information for the year ended December 31, 2001 assumes the acquisition of certain businesses of dmc² occurred as of January 1, 2001, after giving effect to certain adjustments, including interest expense on acquisition debt, depreciation based on the adjustments to fair market value of the acquired property, plant and equipment, and related income tax effects. No amortization expense related to the acquisition of dmc² businesses has been recorded in the proforma information. The proforma results have been prepared for comparative purposes only, reflect no potential synergies from the acquisition, and are not necessarily indicative of the results of operations that may occur in the future or that would have occurred had the acquisition been effected on the date indicated.

(Unaudited)	Year ended December 31, 2001
Revenues – proforma	\$ 1,571.3
Net income from continuing operations – proforma	11.1
Earnings per share from continuing operations – proforma	
- Basic	\$ 0.28
- Diluted	0.23

Approximately \$123.5 million of the \$214.6 million of goodwill recorded for the acquisition is expected to be deductible for tax purposes. All goodwill related to this acquisition is included in Coatings' assets for segment reporting purposes.

See Note 9 for disclosures related to divestitures.

8. Restructuring and Cost Reduction Programs

The following table summarizes the activities relating to the Company's reserves for restructuring and cost reduction programs:

	Severance	Other Costs	Total
Balance, December 31, 2001	5,339	202	5,541
Gross charges	9,470	472	9,942
Business combination ^(a)	8,952	—	8,952
Cash payments	(9,894)	(542)	(10,436)
Balance, December 31, 2002	\$ 13,867	132	13,999
Gross charges	\$ 13,066	2,210	15,276
Cash payments	(10,832)	(578)	(11,410)
Non-cash asset write-offs	—	(1,583)	(1,583)
Balance, December 31, 2003	\$ 16,101	181	16,282

^(a) Exit activities associated with acquired dmc² businesses.

Charges for the year ended December 31, 2003, relate to the Company's ongoing cost reduction and restructuring programs. These programs include employment cost reductions in response to a slowdown in general economic conditions and integration synergy plans relating to the acquisition of certain businesses of dmc². Total gross charges, for the year ended December 31, 2003, were \$15.3 million of which \$4.3 million, \$10.5 million and \$0.5 million were included in cost of sales, selling and administrative and general expenses, and other expenses, respectively. Total gross charges against income before taxes, for the year ended December 31, 2002, were \$9.9 million of which \$3.4 million and \$6.0 million were included in cost of sales, selling and administrative and general expenses, respectively. No charges for discontinued operations were incurred in 2003 and \$0.5 million were incurred in 2002.

Through December 31, 2003, the amount of severance costs paid under these restructuring and cost reduction programs was \$28.9 million and 1,182 employees had actually been terminated.

The utilization of reserves associated with restructuring and cost reduction programs for the remaining balance of \$16.3 million are expected to be completed by the fourth quarter of 2004 unless certain legal or contractual restrictions on the Company's ability to complete the program exist. The Company will continue to evaluate further steps to reduce costs and improve efficiencies.

9. Discontinued Operations

On September 30, 2002, the Company completed the sale of its Powder Coatings business unit, previously part of its Coatings segment, in separate transactions with Rohm and Haas Company and certain of its wholly-owned subsidiaries and certain wholly-owned subsidiaries of Akzo Nobel NV. On June 30, 2003, the Company completed the sale of its Petroleum Additives business, previously part of its Performance Chemicals segment, to Dover Chemicals and its Specialty Ceramics business, previously part of its Coatings segment, to CerCo LLC. For all periods presented, the Powder Coatings, Petroleum Additives and Specialty Ceramics businesses have been reported as discontinued operations.

Sales from discontinued operations were \$30.0 million, \$205.2 million and \$254.6 million for the years ended December 31, 2003, 2002 and 2001, respectively. Earnings (loss) before tax from discontinued operations were \$(1.5) million, \$9.0 and \$14.0 million for the years ended December 31, 2003, 2002 and 2001, respectively. Assets of businesses held for sale at December 31, 2002, consisted primarily of property, plant and equipment, accounts receivable, inventories and intangible assets. Liabilities of businesses held for sale at December 31, 2002 consisted primarily of trade accounts payable. The results of discontinued operations include the operating earnings of the discontinued units as well as interest expense, foreign currency gains and losses, other income or expenses and income taxes directly related to, or allocated to, the discontinued operations. Interest was allocated to discontinued operations assuming debt levels approximating the estimated or actual debt reductions upon disposal of the operations, and the Company's actual weighted average interest rates for the respective years.

10. Contingent liabilities

There are various lawsuits and claims pending against the Company and its consolidated subsidiaries. In the opinion of management, the ultimate liabilities (if any) and expenses resulting from such lawsuits and claims will not materially affect the consolidated financial position, results of operations or liquidity of the Company.

In February 2003, the Company was requested to produce documents in connection with an investigation by the United States Department of Justice into possible antitrust violations in the heat stabilizer industry. Subsequently, the Company received several class action lawsuits alleging civil damages and requesting injunctive relief as a result of this investigation. The Company has no reason to believe that it or any of its employees engaged in any conduct that violated the antitrust laws. The Company is cooperating with the Department of Justice in its investigation and is vigorously defending itself in the class action lawsuits. Management does not expect this investigation to have a material effect on the consolidated financial position, results of operations or liquidity of the Company.

11. Research and development expense

Amounts expended for development or significant improvement of new and/or existing products, services and techniques for continuing operations were \$36.7 million, \$31.1 million and \$26.0 million in 2003, 2002 and 2001, respectively.

12. Retirement benefits

Information concerning the pension and other post-retirement benefit plans of the Company and consolidated subsidiaries is as follows:

(dollars in thousands)	Pension Benefits		Other Benefits	
	2003	2002	2003	2002
Change in benefit obligation:				
Benefit obligation at beginning of year	\$ 366,327	312,176	57,727	53,966
Service cost	13,366	13,539	888	953
Interest cost	23,834	22,395	3,979	3,986
Amendments	102	703	—	—
Effect of curtailment	(2,640)	(7,943)	—	—
Effect of settlements	(2,485)	(2,039)	—	—
Plan participants' contributions	608	417	—	—
Benefits paid	(18,275)	(14,347)	(3,608)	(3,350)
Acquisitions	—	491	—	—
Actuarial loss (gain)	28,144	25,551	(2,703)	2,172
Exchange rate effect	21,736	15,384	—	—
Benefit obligation at end of year	430,717	366,327	56,283	57,727
Change in plan assets:				
Fair value of plan assets, beginning of year	237,111	251,904	—	—
Actual return on plan assets	26,828	(22,231)	—	—
Employer contribution	30,592	11,048	3,608	3,350
Plan participants' contributions	608	417	—	—
Benefits paid	(18,275)	(14,347)	(3,608)	(3,350)
Effect of settlements	(3,273)	(2,091)	—	—
Acquisitions	—	1,080	—	—
Exchange rate effect	16,003	11,331	—	—
Fair value of plan assets, end of year	289,594	237,111	—	—
Funded status	\$(141,123)	(129,216)	(56,283)	(57,727)
Unrecognized net actuarial loss (gain)	107,266	88,893	(4,920)	(2,217)
Unrecognized prior service cost	(1,300)	(884)	(5,397)	(5,956)
Net amount recognized	\$ (35,157)	(41,207)	(66,600)	(65,900)
Amounts recognized in the statement of financial position consist of:				
Prepaid benefit cost	\$ 5,414	5,360	—	—
Accrued benefit liability	(127,751)	(120,542)	(66,600)	(65,900)
Intangible assets	1,858	2,887	—	—
Accumulated other comprehensive income	85,322	71,088	—	—
Net amount recognized	\$ (35,157)	(41,207)	(66,600)	(65,900)
Weighted-average assumptions as of December 31:				
Discount rate	5.93%	6.60%	6.25%	7.00%
Expected return on plan assets	7.83%	7.53%	N/A	N/A
Rate of compensation increase	2.7%	3.4%	N/A	N/A

For measurement purposes, an 11.3% increase in the cost of covered health care benefits was assumed for 2003, gradually decreasing to 5.1% for 2013 and later years for pre-Medicare expenses, and a 12.1% increase in the cost of covered health care benefits was assumed for 2003, gradually decreasing to 5.2% for 2013 and later years for post-Medicare expenses.

In December, 2003 the new Medicare Act became law and will provide a basic subsidy of 28% of certain retiree health care beneficiaries' drug costs if the benefit is at least actuarially equivalent to the Medicare benefit. Any measures of the Company's accumulated post-retirement benefit obligation or net periodic post-retirement benefit cost do not reflect the effects of this new act.

(dollars in thousands)	Pension Benefits			Other Benefits		
	2003	2002	2001	2003	2002	2001
Components of net periodic cost						
Service cost	\$ 13,366	13,539	9,426	888	953	1,012
Interest cost	23,834	22,395	19,680	3,979	3,986	3,760
Expected return on plan assets	(19,989)	(20,847)	(22,584)	—	—	—
Amortization of prior service cost	54	220	606	(558)	(727)	(363)
Net amortization and deferral	4,530	580	(1,254)	—	(130)	(149)
Curtailement effect	689	(2,324)	—	—	—	—
Net periodic benefit cost	\$ 22,484	13,563	5,874	4,309	4,082	4,260

The projected benefit obligation, accumulated benefit obligation and fair value of plan assets for the pension plans with accumulated benefit obligations in excess of plan assets were \$362.5 million, \$342.0 million and \$217.6 million, respectively, as of December 31, 2003 and \$361.5 million, \$343.7 million and \$231.9 million, respectively, as of December 31, 2002. During 2002, the Company sold its Powder Coatings business unit. The impact on the Company's defined-benefit pension plans was to decrease the projected benefit obligation by \$2.0 million and \$3.5 million for settlements and curtailments, respectively. Additionally, in connection with the Company's divestment of the Petroleum Additives and Specialty Ceramics businesses during 2003, a curtailment expense of \$0.7 million was recognized as part of the gain on disposal of discontinued operations. As a result of the acquisition of certain businesses of dmc² during 2001, the Company incorporated certain dmc² defined-benefit pension plans into its existing plans and provided termination benefits to affected persons. The impact on the Company's plans was to decrease the projected benefit obligation as of December 31, 2001 by \$2.3 million for curtailments and to increase its projected benefit obligation as of December 31, 2001 by \$2.3 million for termination benefits.

A one-percentage point change in the assumed health care cost trend rates would have the following effect:

(dollars in thousands)	1-Percentage Point Increase	1-Percentage Point Decrease
Effect on total of service and interest cost component	\$ 293	(343)
Effect on post-retirement benefit obligation	\$ 4,108	(3,966)

Costs for defined contribution pension plans were \$0.5 million, \$0.6 million and \$0.6 million in 2003, 2002 and 2001, respectively.

The Company also maintains other supplemental retirement plans under which it expensed \$1.7 million, \$2.1 million, and \$1.4 million for the years ended December 31, 2003, 2002 and 2001, respectively.

The measurement date used to determine pension and other post-retirement benefit measurements for the United States pension plans was September 30, 2003.

Contributions to all pension plans in the United States for the year ended December 31, 2004 are estimated to be \$6.1 million. This represents the minimum funding requirements under ERISA assuming the extension of funding relief by Congress.

The weighted average asset allocation of the pension benefit plans in the United States at September 30, 2003 were:

	2003	2002
Debt Securities	31%	41%
Equity Securities	68%	42%
Other	1%	17%*
Total	100%	100%

*Primarily funds transferred from the pension plans of the acquired dmc2 businesses prior to redistribution into Ferro's debt and equity securities portfolio.

The Company establishes asset allocation ranges and targets for each major category of plan assets. The risks inherent in the various asset categories are considered along with the benefit obligations, financial status and short-term liquidity needs of the fund. Listed below are the range of percentages and the target percentage for each asset category on a weighted-average basis:

	Minimum	Target	Maximum
Debt securities	25%	30%	40%
Equity securities	60%	70%	80%

Debt securities include investments which have fixed or floating coupon and/or a fixed maturity value. Also included in the debt asset category may be preferred stocks that are not convertible to common stock. The Company expects that the debt securities will be actively managed and will help stabilize the total portfolio return. The debt securities are rated at least "BBB" by Moody's or a comparable rating by Standard & Poor's or Fitch at the time of purchase and the weighted average quality of the total debt asset portfolio is "A" or better at all times. Except for government obligations, no more than 25% of the debt asset portfolio, measured at market value, is represented by a single sector (i.e., industrial, financial, or utility). Except for government investments, a single position in the total debt asset portfolio does not represent more than 5% of the market value of the total portfolio.

Equity securities include investments (common stock and rights, warrants and issues convertible to common stock) traded on domestic exchanges with market capitalization exceeding \$200 million. The Company expects that equity investments will be separately and actively managed; however, the investment managers may elect to use pooled accounts for portions or all of the equity investments. A single equity security does not represent more than 10% of the total portfolio's aggregate market value and no more than 10% of the total portfolio is invested in American Depositary Receipts (ADR's). The maximum investment, measured at market value, in a single industry sector as defined by Standard and Poor's does not exceed the greater of 30% of the total portfolio or 2 times the S&P 500 Index weighting of major sectors. The volatility of the equity portfolio is expected to be in line with the return received over a market cycle, based on accepted industry standards (i.e., standard deviation, sharp ratio, etc.).

The basis used to determine the overall long-term rate-of-return-on-assets assumptions for the pension plans in the United States is listed below:

	Estimated Returns	Target Allocation	Weighted Average Return
Debt securities	6.25%	30%	1.875%
Equity securities	9.82%	70%	6.875%
Rate of return assumption			8.750%

13. Income taxes

Income tax expense (benefit) from continuing operations is comprised of the following components:

(dollars in thousands)	2003	2002	2001
Current:			
U.S. federal	\$ 544	(4,868)	5,175
Foreign	10,221	15,537	13,089
State and local	547	(1,306)	156
	\$ 11,312	9,363	18,420
Deferred:			
U.S. federal	\$ (624)	4,254	701
Foreign	(2,984)	(306)	(2,009)
State and local	(841)	1,522	349
	(4,449)	5,470	(959)
Total income tax	\$ 6,863	14,833	17,461

In addition to the 2003 income tax expense of \$6.9 million, certain net tax benefits of \$5.5 million were allocated directly to shareholders' equity.

The above taxes are based on earnings from continuing operations before income taxes. These earnings aggregated \$(0.1) million, \$3.9 million and \$20.2 million for domestic operations, and \$24.3 million, \$44.7 million and \$27.3 million for foreign operations in 2003, 2002 and 2001, respectively.

A reconciliation of the statutory federal income tax rate and the effective tax rate follows:

	2003	2002	2001
Statutory federal income tax rate	35.0	35.0	35.0
Foreign tax rate difference	(3.6)	0.1	3.2
ESOP dividend tax benefit	(4.0)	(2.2)	(2.6)
Extraterritorial income exclusion	(5.9)	(3.5)	(1.9)
Change in estimate of prior year accrual	—	(3.3)	—
U.S. tax cost of foreign dividends	4.8	2.9	0.1
State and local taxes, net of federal tax	(0.8)	0.3	0.7
Miscellaneous	2.8	1.2	2.3
Effective tax rate (%)	28.3	30.5	36.8

The components of deferred tax assets and liabilities at December 31 were:

(dollars in thousands)	2003	2002
Deferred tax assets:		
Pension and other benefit program	\$ 74,590	66,548
Accrued liabilities	10,374	9,066
Net operating loss carryforwards	21,770	20,614
Inventories	4,626	7,489
Foreign tax credit carryforwards	10,395	5,990
Reserve for doubtful accounts	4,179	2,971
Other	9,491	12,202
Total deferred tax assets	\$ 135,425	124,880
Deferred tax liabilities:		
Property and equipment - depreciation and amortization	\$ 64,654	59,705
Other	—	342
Total deferred tax liabilities	\$ 64,654	60,047
Net deferred tax asset before valuation allowance	70,771	64,833
Valuation allowance	(15,727)	(18,643)
Net deferred tax assets	\$ 55,044	46,190

At December 31, 2003, the Company has deferred tax assets related to operating loss carryforwards of \$21.8 million, some of which can be carried forward indefinitely and others expire in 1 to 10 years. A valuation allowance of \$12.5 million has been established due to the uncertainty of realizing certain foreign operating loss carryforwards. The recognition of any future tax benefits resulting from the reduction of \$2.3 million of the valuation allowance will reduce any goodwill and other noncurrent intangibles resulting from the dmc2 acquisition that remain at the time of reduction.

At December 31, 2003, the Company has deferred tax assets related to foreign tax credit carryforwards of \$10.4 million for tax purposes. These can be carried forward for five years. Approximately half expire in 2007 and approximately half in 2008. In management's opinion, it is more likely than not that the credits will be utilized before the expiration period.

Of the total net deferred tax assets, \$39.9 million and \$33.0 million were classified as other current assets, \$63.0 million and \$53.5 million as other assets, \$3.0 million and \$1.4 million as current liabilities and \$44.9 million and \$38.9 million as other liabilities at December 31, 2003 and 2002, respectively.

Undistributed earnings of the Company's foreign subsidiaries amounted to approximately \$129.6 million. Deferred income taxes are not provided on these earnings as it is intended that these earnings are indefinitely invested in these entities.

14. Reporting for segments

In determining reportable segments, the Company considers its operating and management structure and the types of information subject to regular review by its chief operating decision-maker. The Company has two reportable segments consisting of coatings and performance chemicals. Coatings' products include tile coating systems, porcelain enamel, color and glass performance materials and electronic materials systems. Performance chemicals consist of polymer additives, performance and fine chemicals and plastics.

The accounting policies of the segments are consistent with those described for the Company's consolidated financial statements in the summary of significant accounting policies (see Note 1). The Company measures segment profit for reporting purposes as net operating profit before interest and taxes. Net operating profit also excludes unallocated corporate expenses and charges associated with employment cost reduction programs and certain integration costs related to the acquisition of certain businesses of dmc2. Sales to external customers are presented in the following table. Inter-segment sales are not material.

Net Sales by Segment

(dollars in millions)	2003	2002	2001
Coatings	\$1,071.8	986.6	714.2
Performance Chemicals	550.6	541.9	532.3
Total	\$1,622.4	1,528.5	1,246.5

Income and reconciliation to income (loss) before taxes by Segment follows:

(dollars in millions)	2003	2002	2001
Coatings	\$ 90.7	95.9	62.3
Performance Chemicals	26.5	34.6	36.5
Total	\$117.2	130.5	98.8
Unallocated expenses	45.3	27.8	27.8
Interest expense	35.6	41.8	33.2
Interest earned	(0.9)	(1.0)	(2.6)
Foreign currency	2.2	0.4	(20.0)
Miscellaneous - net	10.8	12.9	12.9
Income before taxes from continuing operations	\$ 24.2	48.6	47.5

Depreciation and amortization by Segment

(dollars in millions)	2003	2002	2001
Coatings	\$43.0	38.9	30.0
Performance Chemicals	18.9	17.4	22.2
Segment depreciation and amortization	\$61.9	56.3	52.2
Other	8.5	8.0	8.3
Total consolidated	\$70.4	64.3	60.5

Segment assets primarily consist of trade receivables, inventories, intangibles, and property, plant and equipment, net of applicable reserves. Other assets include cash, deferred taxes and other items.

Total Assets by Segment

(dollars in millions)	2003	2002
Coatings	\$ 998.7	986.7
Performance Chemicals	444.2	410.7
Segment assets	1,442.9	1,397.4
Other assets	308.3	207.1
Total consolidated	\$1,751.2	1,604.5

Intangible Assets by Segment

(dollars in millions)	2003	2002
December 31		
Coatings		
Goodwill	\$175.3	174.5
Other Intangibles	112.4	113.2
Total Coatings	287.7	287.7
Performance Chemicals		
Goodwill	133.6	133.6
Other Intangibles	—	—
Total Performance Chemicals	133.6	133.6
Total Intangible Assets	\$421.3	421.3

Coatings' intangible assets are net of accumulated amortization of \$17.1 million and \$16.3 million at December 31, 2003 and 2002, respectively. Performance Chemicals' intangible assets are net of accumulated amortization of \$13.5 million and \$13.5 million at December 31, 2003 and 2002, respectively.

Expenditures for long-lived assets (including acquisitions)

(dollars in millions)	2003	2002	2001
Coatings	\$21.7	21.2	442.3
Performance Chemicals	12.4	7.7	16.6
Total	\$34.1	28.9	458.9

Geographic revenues are based on the region in which the customer invoice is generated. The United States of America is the single largest country for customer sales. No other single country represents greater than 10% of the Company's consolidated sales.

Geographic information follows:

Net sales

(dollars in millions)	2003	2002	2001
United States and Canada	\$ 779.9	758.6	676.3
International	842.5	769.9	570.2
Total	\$1,622.4	1,528.5	1,246.5

Long-lived assets (dollars in millions)	2003	2002
United States and Canada	\$ 646.7	667.7
International	383.1	331.3
Total	\$1,029.8	999.0

Except for the United States of America, no single country has greater than 10% of consolidated long-lived assets.

15. Financial instruments

The carrying amounts of cash and cash equivalents, trade receivables, other current assets, accounts payable and amounts included in investments and accruals meeting the definition of a financial instrument approximate fair value.

The Company manages exposures to changing foreign currency exchange rates principally through the purchase of put options on currencies and forward foreign exchange contracts. The options and forwards are marked-to-market at the end of each reporting period, with the corresponding gain or loss included in the consolidated statement of income. The Company does not engage in speculative transactions for trading purposes.

Put options are purchased to offset the exposure of foreign currency-denominated earnings to a depreciation in the value of the local currency to the U.S. dollar. The Company's primary foreign currency put option market is the Euro. The maturity of the Company's put option contracts is generally under one year. At December 31, 2003, the face value or notional amount of all outstanding currency options was \$19.0 million. At December 31, 2002, the face value or notional amount of all outstanding currency options was \$19.2 million. If liquidated at December 31, 2003, these options would have produced a cash amount of \$0.1 million versus an unamortized cost of \$0.3 million. If liquidated at December 31, 2002, these options would have produced a cash amount of \$0.1 million versus an unamortized cost of \$0.3 million.

Forward contracts are entered into to manage the impact of currency fluctuations on transaction exposures. The maturity of such foreign currency forward contracts is consistent with the underlying exposure, generally less than one year. At December 31, 2003, the notional amount and fair market value of these forward contracts was \$72.3 million and \$(0.9) million, respectively. At December 31, 2002, the notional amount and fair market value of these forward contracts was \$31.9 million and \$(0.5) million, respectively. The maturity date of the forward contracts are generally less than one year.

All forward contract and put option activity is executed with major reputable multinational financial institutions. Accordingly, the Company does not anticipate counter-party default.

The Company uses derivative financial instruments to manage the price risk for a portion of its forecasted requirements for natural gas. These instruments, that have maturity dates that coincide with the Company's expected purchases of the natural gas, allow the Company to effectively establish its cost for gas at the time the Company enters into the instrument. To the extent the Company has not entered into derivative financial instruments, our cost of natural gas will increase or decrease as the market prices for the commodity rises and falls. The fair value of the contracts for natural gas was \$0.3 million at December 31, 2003.

16. Lease commitments

The Company enters into precious metal leases (primarily gold, silver, platinum and palladium) which are arrangements under which banks lend the Company precious metals for a specified period for which the Company pays a lease fee. The lease terms are generally less than one year, and the Company maintains sufficient on-hand quantities of precious metals to cover the lease obligations at all times. The leases are treated as operating leases, and annual expenses were \$1.6 million for 2003 and \$2.0 million for 2002. As of December 31, 2003 and 2002, the fair value of precious metals under leasing arrangements was \$93.6 million and \$57.7 million, respectively.

Future lease payments include long term commitments for land and certain property, plant and equipment, transportation vehicles leases and office equipment leases. At December 31, 2003, future minimum lease payments under all non-cancelable operating leases are as follows:

(dollars in thousands)					
2004	2005	2006	2007	2008	Thereafter
\$10,938	8,371	5,512	3,996	2,975	16,541

Lease expense was \$17.0 million, \$15.6 million and \$10.1 million for the three years 2003, 2002 and 2001, respectively.

17. Intangible Assets

(dollars in millions)	Estimated		
December 31,	Economic Life	2003	2002
Goodwill	Indefinite	\$ 308.9	308.1
Technical Know How	Indefinite	122.2	122.2
Trademark	Indefinite	13.0	13.0
Patents	0-17 years	2.5	2.5
Non Compete		3.3	3.3
Other		2.0	2.0
Total Gross Intangible Assets		451.9	451.1
Accumulated Amortization		30.6	29.8
Net Intangible Assets		\$ 421.3	421.3

Amortization expense from continuing operations was \$0.8 million, \$0.6 million and \$7.7 million for the years ended December 31, 2003, 2002, and 2001, respectively.

18. Property, Plant and Equipment

(dollars in millions)		
December 31,	2003	2002
Land	\$ 43.6	36.9
Buildings	250.2	222.9
Machinery and Equipment	806.8	721.4
Total Property, Plant and Equipment	1,100.6	981.2
Total Accumulated Depreciation	492.1	403.4
Net Property, Plant and Equipment	\$ 608.5	577.8

Depreciation expense from continuing operations was \$66.4 million, \$61.0 million, and \$48.8 million for the years ended December 31, 2003, 2002, and 2001, respectively.

Item 9 – Changes in and Disagreements With Accountants on Accounting and Financial Disclosure

There are no such changes or disagreements.

Item 9A - Controls and Procedures

The Company carried out an evaluation, under the supervision and with the participation of the Company's management, including the Chairman and Chief Executive Officer of the Company and the Chief Financial Officer of the Company, of the effectiveness of the design and operation of the Company's disclosure controls and procedures pursuant to Exchange Act Rule 13a-15(e) as of the end of the period covered by this report. Based upon that evaluation, the Chairman and Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures are effective in timely alerting them to material information relating to the Company (including its consolidated subsidiaries) required to be included in the Company's periodic SEC filings.

There has been no significant change in our internal control over financial reporting that occurred during the period covered by this report that has materially affected, or that is reasonably likely to materially affect, our internal control over financial reporting.

PART III

Item 10 - *Directors and Executive Officers of the Registrant*

The information regarding directors of Ferro contained under the heading "Election of Directors" on pages 1 through 6 of Ferro's Proxy Statement for the Annual Meeting of Shareholders on April 30, 2004, is incorporated here by reference. The information regarding the audit committee and the audit committee financial expert contained under the heading "Corporate Governance" Audit Committee" on page 8 of Ferro's Proxy Statement for the Annual Meeting of Shareholders on April 30, 2004 is incorporated here by reference. Information regarding executive officers of Ferro is contained under Part I of this Annual Report on Form 10-K. Information regarding Section 16(a) filings is contained under the subheading "Section 16(a) Beneficial Ownership Reporting Compliance" on page 23 of Ferro's Proxy Statement for the Annual Meeting of Shareholders on April 30, 2004, is incorporated here by reference.

Ferro has adopted a series of policies dealing with business conduct and ethics. These policies apply to all Ferro Directors, officers, and employees. A summary of these policies may be found on Ferro's website and the full text of the policies is available in print free of charge to any shareholder who requests a copy, by writing to: General Counsel, Ferro Corporation, 1000 Lakeside Avenue, Cleveland, Ohio 44114-1147 USA. Ferro maintains a worldwide hotline that allows employees to report confidentially any detected violations of these legal and ethical conduct policies. Waivers of those policies may be made, if at all, only by the Directors and, in the unlikely event any such waivers are granted, such waivers will be posted promptly on the Ferro website (www.ferro.com).

Item 11 - *Executive Compensation*

The information required by this Item 11 is set forth under the heading "Information Concerning Executive Officers" on pages 11 through 18 of Ferro's Proxy Statement for the Annual Meeting of Shareholders on April 30, 2004 and is incorporated here by reference.

Item 12 - Security Ownership of Certain Beneficial Owners and Management

The information required by this Item 12 is set forth under the headings "Stock Ownership by Directors, Executive Officers and Employees" and "Stock Ownership by Other Major Shareholders" on pages 22 and 23 of Ferro's Proxy Statement for the Annual Meeting of Shareholders on April 30, 2004 and is incorporated here by reference.

The following table sets forth information as of December 31, 2003 regarding the number of shares issued and available for issuance under Ferro's equity compensation plans.

Equity Compensation Plans	Number of Shares to Be Issued on Exercise of Outstanding Options, Warrants and Rights	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	Number of Shares Remaining Available for Future Issuance under Equity Compensation Plans (Excluding Securities Reflected in First Column)
Approved by Ferro Shareholders ⁽¹⁾	4,132,808 Shares	\$ 21.76	2,355,200 Shares ⁽³⁾
Not Approved by Ferro Shareholders ⁽²⁾	193,552 Shares	\$ 24.96 ⁽⁴⁾	—
Total	4,326,360 Shares	\$ 21.76	2,355,200 Shares

- (1) Includes options issued under the Company's Stock Option Plan and 2003 Long-Term Incentive Compensation Plan.
- (2) Includes options granted in excess of 100,000 shares to the Chief Executive Officer and phantom units issued under the Company's Executive Employee Deferred Compensation Plan and Supplemental Executive Deferred Contribution Plan.
- (3) Shares are only available under the 2003 Long-Term Incentive Compensation Plan.
- (4) Weighted-average exercise price of outstanding options; excludes phantom units.

Set forth below is a description of the material features of each plan that were not approved by Ferro shareholders:

Stock Options. On February 28, 2003, February 11, 2002 and February 9, 2001, respectively, the Board granted Mr. Ortino 175,000, 155,000 and 122,000 options to purchase shares. Of this amount, options for 100,000 shares each year were granted under the Company's Stock Option Plan approved by shareholders and the remaining options were approved and granted by the Board from available treasury shares. The options granted in 2003 have an exercise price of \$21.26, the options granted in 2002 have an exercise price of \$25.50 and the options granted in 2001 have an exercise price of \$23.60. All three grants have a maximum term of ten years and vest evenly over four years on the anniversary of the grant date.

Executive Employee Deferred Compensation Plan. The Executive Employee Deferred Compensation Plan allows participants to defer up to 75 percent of annual base salary and up to 100 percent of incentive cash bonus awards and cash performance share payouts. Participants may elect to have all or a portion of their deferred compensation accounts deemed to be invested in shares of Ferro Common Stock, and credited with hypothetical appreciation, depreciation, and dividends. When distributions are made from this plan in respect of such shares, the distributions are made in actual shares of Ferro Common Stock.

Supplemental Executive Deferred Contribution Plan. The Supplemental Executive Defined Contribution Plan allows participants to be credited annually with matching contributions that they would have received under the Company's 401(k) plan except for the applicable IRS limitations on compensation and contributions. Contributions vest at 20% for each year of service, are deemed invested in Ferro Common Stock and earn dividends. Distributions are made in Ferro Common Stock or in cash.

Item 13 - *Certain Relationships and Related Transactions*

There are no relationships or transactions that are required to be reported.

Item 14 - *Principal Accounting Fees and Services*

The information required by this Item 14 is set forth under the heading "Auditors Fees" on pages 19 and 20 of Ferro's Proxy Statement for the Annual Meeting of Shareholders on April 30, 2004 and is incorporated here by reference.

PART IV

Item 15 - Exhibits, Financial Statement Schedules and Reports on Form 8-K

1. DOCUMENTS FILED AS PART OF THIS ANNUAL REPORT ON FORM 10-K:

- (a) The following consolidated financial statements of Ferro corporation and its subsidiaries, are submitted herewith:

Consolidated Statements of Income for the years ended December 31, 2003, 2002 and 2001

Consolidated Balance Sheets at December 31, 2003 and 2002

Consolidated Statements of Shareholders' Equity for the years ended December 31, 2003, 2002 and 2001

Consolidated Statements of Cash Flows for the years ended December 31, 2003, 2002 and 2001

Notes to Consolidated Financial Statements

- (b) The following additional information for the years 2003, 2002 and 2001, is submitted herewith:

Independent Auditors' Report on Financial Statement Schedule

Schedule II - Valuation and Qualifying Accounts and Reserves

All other schedules have been omitted because the material is not applicable or is not required as permitted by the rules and regulations of the Securities and Exchange Commission, or the required information is included in notes to consolidated financial statements.

Financial Statement Schedule II, together with the independent Auditors' Report, are contained on pages F-1 and F-2 of this Annual Report on Form 10-K.

- (c) Exhibits:

The exhibits listed in the attached Exhibit Index are filed pursuant to Item 15 (c) of Form 10-K.

2. REPORTS ON FORM 8-K:

The following reports on Form 8-K were filed with the SEC during the fourth quarter:

The Company filed a Current Report on Form 8-K dated November 14, 2003, reporting the temporary suspension of trading under the Ferro Corporation Savings and Stock Ownership Plan ("Plan") while the plan changes record keepers.

The following reports on Form 8-K were furnished to the SEC during the fourth quarter:

Current Report on Form 8-K dated October 15, 2003 reporting Ferro Corporation issued a press release announcing its current forecast of financial results for the quarter ended September 30, 2003. Current Report on Form 8-K dated October 28, 2003, reporting Ferro Corporation issued a press release announcing financial results for the quarter ended September 30, 2003.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Annual Report on Form 10-K/A to be signed on its behalf by the undersigned, thereunto duly authorized, as of the 19th day of March, 2004.

FERRO CORPORATION

By /s/ Hector R. Ortino

Hector R. Ortino
Chairman and Chief Executive Officer

INDEPENDENT AUDITORS' REPORT ON FINANCIAL STATEMENT SCHEDULE

To the Shareholders and Board of Directors of Ferro Corporation:

Under date of February 4, 2004, we reported on the consolidated balance sheets of Ferro Corporation and subsidiaries (the Company) as of December 31, 2003 and 2002, and the related consolidated statements of income, shareholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2003, which are included in the 2003 Annual Report to Shareholders. In connection with our audits of the aforementioned consolidated financial statements, we also audited the related consolidated financial statement Schedule II-Valuation and Qualifying Accounts and Reserves. This financial statement schedule is the responsibility of the Company's management. Our responsibility is to express an opinion on this financial statement schedule based on our audits.

In our opinion, such financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

/s/ KPMG LLP

Cleveland, Ohio
February 4, 2004

FERRO CORPORATION AND SUBSIDIARIES
SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS AND RESERVES
YEARS ENDED DECEMBER 31, 2003, 2002, AND 2001
(THOUSANDS OF DOLLARS)

	Balance at Beginning of Period	Charged to Costs and Expenses	Charged to Other Accounts	Deductions	Balance at End of Period
Year ended December 31, 2003					
Valuation and qualifying accounts which are deducted on the consolidated balance sheet from the assets to which they apply					
Possible losses in collection of notes and accounts receivable – trade	\$ 11,614	913	(451)(C)	(647)(B) 4,073(A)	8,650
Year ended December 31, 2002					
Valuation and qualifying accounts which are deducted on the consolidated balance sheet from the assets to which they apply					
Possible losses in collection of notes and accounts receivable – trade	\$ 15,229	2,214	(399)(C)	227(B) 5,203(A)	11,614
Year ended December 31, 2001					
Valuation and qualifying accounts which are deducted on the consolidated balance sheet from the assets to which they apply					
Possible losses in collection of notes and accounts receivable – trade	\$ 6,825	2,771	7,186(C)	392(B) 1,161(A)	15,229

Notes: (A) Accounts written off, less recoveries
(B) Adjustment with respect to differences in rates of exchange
(C) Acquisitions and divestitures

EXHIBIT INDEX

The following exhibits are filed with this report or are incorporated here by reference to a prior filing in accordance with Rule 12b-32 under the Securities and Exchange Act of 1934. (Asterisk denotes exhibits filed with this report.)

Exhibit:

(3) Articles of Incorporation and by-laws

- (a) Eleventh Amended Articles of Incorporation. (Reference is made to Exhibit 3(a) to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2003, which Exhibit is incorporated here by reference.)
- (b) Certificate of Amendment to the Eleventh Amended Articles of Incorporation of Ferro Corporation filed December 28, 1994. (Reference is made to Exhibit 3(b) to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2003, which Exhibit is incorporated here by reference.)
- (c) Certificate of Amendment to the Eleventh Amended Articles of Incorporation of Ferro filed June 19, 1998. (Reference is made to Exhibit 3(c) to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2003, which Exhibit is incorporated here by reference.)
- (d) Amended Code of Regulations. (Reference is made to Exhibit 3(d) to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2003, which Exhibit is incorporated here by reference.)

(4) Instruments defining rights of security holders, including indentures

- (a) Amended and Restated Shareholder Rights Agreement between Ferro Corporation and National City Bank, Cleveland, Ohio, as Rights Agent, dated as of December 10, 1999. (Reference is made to Exhibit 4(k) to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 1999, which Exhibit is incorporated here by reference.)
- (b) The rights of the holders of Ferro's Debt Securities issued and to be issued pursuant to a Senior Indenture between Ferro and J. P. Morgan Trust Company, National Association (successor-in-interest to Chase Manhattan Trust Company, National Association) as Trustee, are described in the Senior Indenture, dated March 25, 1998. (Reference is made to Exhibit 4(b) to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2003, which Exhibit is incorporated here by reference.)
- (c) Form of Security (7-1/8% Debentures due 2028). (Reference is made to Exhibit 4(c) to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2003, which Exhibit is incorporated here by reference.)
- (d) Officers' Certificate dated December 20, 2001, pursuant to Section 301 of the Indenture dated as of March 25, 1998, between the Company and J. P. Morgan Trust Company, National Association (the successor-in-interest to Chase Manhattan Trust Company, National Association), as Trustee (excluding exhibits thereto). (Reference is made to Exhibit 4.1 to Ferro Corporation's Current Report on Form 8-K filed December 21, 2001, which Exhibit is incorporated herein by reference.)
- (e) Form of Global Note (9-1/8% Senior Notes due 2009). (Reference is made to Exhibit 4.2 to Ferro Corporation's Current Report on Form 8-K filed December 21, 2001, which Exhibit is incorporated here by reference.) The Company agrees, upon request, to furnish to the Securities and Exchange Commission a copy of any instrument authorizing long-term debt that does not authorize debt in excess of 10% of the total assets of the Company and its subsidiaries on a consolidated basis.

(10) Material Contracts

- (a) Ferro Corporation Performance Share Plan. (Reference is made to Exhibit B of Ferro Corporation's Proxy Statement dated March 20, 2000, which Exhibit is incorporated herein by reference.)
- (b) Ferro Corporation Acquisition Performance Reward Plan. (Reference is made to Exhibit 10(b) to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2001, which Exhibit is incorporated herein by reference.)
- (c) Ferro Corporation Savings and Stock Ownership Plan. (Reference is made to Exhibit 10(c) to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2001, which Exhibit is incorporated herein by reference.)
- (d) Ferro Corporation Employee Stock Option Plan. (Reference is made to Exhibit 10(d) to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2001, which Exhibit is incorporated herein by reference.)
- (e) Schedule I containing a written description of stock option grants offered to Hector R. Ortino. (Reference is made to Exhibit 10(e) to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2001, which Exhibit is incorporated herein by reference.)
- (f) Form of Indemnification Agreement. (Reference is made to Exhibit 10(f) to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2001, which Exhibit is incorporated herein by reference.)
- (g) Amended and Restated Executive Employment Agreement. (Reference is made to Exhibit 10(g) to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2001, which Exhibit is incorporated herein by reference.)
- (h) Form of Change in Control Agreement. (Reference is made to Exhibit 10(j) to Ferro Corporation Annual Report on Form 10-K for the year ended December 31, 1999, which Exhibit is incorporated herein by reference.)
- (i) Schedule II listing the officers with whom Ferro has entered into currently effective executive employment agreements and change in control agreements. (Reference is made to Exhibit 10(i) to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2001, which Exhibit is incorporated herein by reference.)
- (j) Ferro Corporation Supplemental Executive Defined Contribution Plan. (Reference is made to Exhibit 10(j) to Ferro Corporation Annual Report on Form 10-K for the year ended December 31, 2001, which Exhibit is incorporated herein by reference.)
- (k) Ferro Corporation Executive Employee Deferred Compensation Plan. (Reference is made to Exhibit 10(k) to Ferro Corporation Annual Report on Form 10-K for the year ended December 31, 2001, which Exhibit is incorporated herein by reference.)
- (l) Ferro Corporation Deferred Compensation Plan for Non-Employee Directors, Ferro Corporation Deferred Compensation Plan for Non-Employee Directors Trust Agreement, and a First Amendment to Ferro Corporation Deferred Compensation Plan for Non-Employee Directors. (Reference is made to Exhibit 10(l) to Ferro Corporation Annual Report on Form 10-K for the year ended December 31, 2001, which Exhibit is incorporated herein by reference.)

- (m) Receivables Purchase Agreement, dated as of September 28, 2000, among Ferro Finance Corporation, Ciesco L. P. as the Investor, Citicorp North America, Inc. as the Agent, Ferro Electronic Materials as an Originator and Ferro Corporation as Collection Agent and Originator. (Reference is made to Exhibit 10(m) to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2001, which Exhibit is incorporated herein by reference.) Amendment to Receivables Purchase Agreement, dated as of February 28, 2002, among Ferro Finance Corporation as Seller, Corporate Asset Funding Company, Inc. as Investor and assignee of CIESCO L.P., Ferro Electronic Materials, Inc. as an Originator, Ferro Corporation as Originator and Collection Agent, and Citicorp North America, Inc. as Agent. (Reference is made to Exhibit 10(m)(1) to Ferro Corporation's Quarterly Report on Form 10-Q for the three months ended March 31, 2002, which Exhibit is incorporated here by reference.)
- (n) Purchase and Contribution Agreement, dated as of September 28, 2000, between Ferro Corporation and Ferro Electronic Materials, Inc. as Sellers and Ferro Finance Corporation as Purchaser. (Reference is made to Exhibit 10(n) to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2001, which Exhibit is incorporated herein by reference.) Amendment to Purchase and Contribution Agreement, dated as of February 28, 2002, between Ferro Corporation and Ferro Electronic Materials, Inc. as Sellers and Ferro Finance Corporation as Purchaser. (Reference is made to Exhibit 10(n)(1) to Ferro Corporation's Quarterly Report on Form 10-Q for the three months ended March 31, 2002, which Exhibit is incorporated here by reference.)
- (o) Credit Agreement, dated as of August 31, 2001, among Ferro Corporation, as Borrower, Various Financial Institutions, as Lenders, Credit Suisse First Boston, as the Syndication Agent and a Joint Lead Arranger, Citicorp U.S.A., Inc. and Key Bank National Association, as the Co-Documentation Agents. (Reference is made to Exhibit 10(b) to Ferro Corporation's Quarterly Report on Form 10-Q for the three months ended September 30, 2001, which Exhibit is incorporated herein by reference.) First Amendment to Credit Agreement, dated as of December 27, 2002. (Reference is made to Exhibit 99.1 to Ferro Corporation's Current Report on Form 8-K, filed January 13, 2003, which Exhibit is incorporated here by reference.) Second Amendment to Credit Agreement, dated as of September 30, 2003. (Reference is made to Exhibit 10 to Ferro Corporation's Current Report on Form 10-Q for the nine months ended September 30, 2003, which Exhibit is incorporated here by reference.)
- (p) Ferro Corporation 2003 Long-Term Incentive Compensation Plan (Reference is made to Exhibit A of Ferro Corporation's Proxy Statement dated March 26, 2003, which Exhibit is incorporated herein by reference).

(11) Computation of Earnings Per Share. (Reference is made to Exhibit 11 to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2003, which Exhibit is incorporated herein by reference.)

(12) Ratio of Earnings to Fixed Charges and Ratio of Earnings to Combined Fixed Charges and Preferred Stock Dividends. (Reference is made to Exhibit 12 to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2003, which Exhibit is incorporated herein by reference.)

(21) List of Subsidiaries. (Reference is made to Exhibit 21 to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2003, which Exhibit is incorporated herein by reference.)

(23) Consent of Independent Auditors. (Reference is made to Exhibit 23 to Ferro Corporation's Annual Report on Form 10-K for the year ended December 31, 2003, which Exhibit is incorporated herein by reference.)

* (31.1) Certification of Principal Executive Officer Pursuant to Rule 13a-14(a)/15d-14(a)

* (31.2) Certification of Principal Financial Officer Pursuant to Rule 13a-14(a)/15d-14(a)

* (32.1) Certification of Principal Executive Officer Pursuant to 18 U.S.C. 1350.

* (32.2) Certification of Principal Financial Officer Pursuant to 18 U.S.C.1350.

EXHIBIT 31.1
CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO RULE 13A-14(a)/15D-14(a)

I, Hector R. Ortino, Chairman and Chief Executive Officer, certify that:

1. I have reviewed this annual report on Form 10-K/A of Ferro Corporation;
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects, the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared.
 - b. Intentionally omitted pursuant to Securities and Exchange Commission release numbers 33-8238 and 34-47986;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 19, 2004

/s/ Hector R. Ortino

Signature

Hector R. Ortino

Chairman and Chief Executive Officer

Title

EXHIBIT 31.2
CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO RULE 13A-14(a)/15D-14(a)

I, Thomas M. Gannon, Vice President and Chief Financial Officer, certify that:

1. I have reviewed this annual report on Form 10-K/A of Ferro Corporation;
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects, the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared.
 - b. Intentionally omitted pursuant to Securities and Exchange Commission release numbers 33-8238 and 34-47986;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting

Date: March 19, 2004

/s/ Thomas M. Gannon

Signature

Thomas M. Gannon

Vice President and Chief Financial Officer

Title

EXHIBIT 32.1

**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO 18 U.S.C. 1350**

In connection with the Form 10-K/A (the "Report") of Ferro Corporation (the "Company")

[Name of Report]

[Name of Company]

for the period ending December 31, 2003, I, Hector R. Ortino , Chairman and Chief Executive Officer

[Date]

[Name of Officer]

[Title]

of the Company, certify that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Hector R. Ortino

Hector R. Ortino

Chairman and Chief Executive Officer

Dated: March 19, 2004

EXHIBIT 32.2

**CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. 1350**

In connection with the Form 10-K/A (the "Report") of Ferro Corporation (the "Company")

[Name of Report]

[Name of Company]

for the period ending December 31, 2003, I, Thomas M. Gannon, Vice President and Chief Financial Officer

[Date]

[Name of Officer]

[Title]

of the Company, certify that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Thomas M. Gannon

Thomas M. Gannon

Vice President and Chief Financial Officer

Dated: March 19, 2004

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

FERRO CORPORATION

By /s/ Hector R. Ortino

Hector R. Ortino
Chairman and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report on Form 10-K has been signed below by the following persons on behalf of the Registrant and in their indicated capacities as of the 12th day of March, 2004.

<u>/s/ Hector R. Ortino</u>	Chairman and Chief Executive Officer (Principal Executive Officer)
Hector R. Ortino	
<u>/s/ Thomas M. Gannon</u>	Vice President and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)
Thomas M. Gannon	
<u>/s/ Michael H. Bulkin</u>	Director
Michael H. Bulkin	
<u>/s/ Sandra Austin Crayton</u>	Director
Sandra Austin Crayton	
<u>/s/ Jennie S. Hwang</u>	Director
Jennie S. Hwang	
<u>/s/ William B. Lawrence</u>	Director
William B. Lawrence	
<u>/s/ Michael F. Mee</u>	Director
Michael F. Mee	
<u>/s/ William J. Sharp</u>	Director
William J. Sharp	
<u>/s/ Dennis W. Sullivan</u>	Director
Dennis W. Sullivan	
<u>/s/ Padmasree Warrior</u>	Director
Padmasree Warrior	
<u>/s/ Alberto Weisser</u>	Director
Alberto Weisser	

CORPORATE information

AUTOMATIC DIVIDEND REINVESTMENT AND STOCK PURCHASE PLAN

This plan provides an opportunity for shareholders to purchase additional shares of Ferro common stock by automatic reinvestment of dividends and by optional periodic cash payments, without paying service charges or brokerage commissions. These costs will be paid by Ferro.

The Plan is administered by National City Bank.

Any questions or correspondence about the Plan should be addressed to:

National City Bank Reinvestment Services
P.O. Box 94946
Cleveland, Ohio 44101-4946
216-257-4506
Toll free: 800-622-6757
E-mail: shareholder.inquiries@nationalcity.com

BROKERAGE ACCOUNTS

To reduce communication delays that exist for some Ferro shareholders who hold their stock in brokerage accounts, the Company will send its various printed communications directly to these shareholders. If you would like to take advantage of this service, please write to:

Treasury Department, Ferro Corporation
1000 Lakeside Avenue
Cleveland, Ohio 44114, U.S.A.

Please indicate the number of Ferro shares owned and the name and address of the brokerage firm that administers your account.

STOCK TRANSFER AGENT/REGISTRAR AND DIVIDEND DISBURSING AGENT

National City Bank
Dept. 5352
Corporate Trust Operations
P.O. Box 92301
Cleveland, Ohio 44193-0900
216-257-8663
Toll Free: 800-622-6757
E-mail: shareholder.inquiries@nationalcity.com

TRUSTEE 7 3/8%, 7 5/8%, 7 1/8%, AND 8% DEBENTURES AND 9 1/8% SENIOR NOTES

J.P. Morgan Trust Company
National Association
Chase Financial Tower
250 West Huron Road, Suite 220
Cleveland, Ohio 44113

INDEPENDENT AUDITORS KPMG LLP

One Cleveland Center, Suite 2600
1375 East Ninth Street
Cleveland, Ohio 44114-1796

EXCHANGE LISTING New York Stock Exchange Common Stock Stock symbol: FOE

FORM 10-K

Ferro Corporation's Form 10-K report filed with the Securities and Exchange Commission for the year ended December 31, 2003 is available to shareholders at no cost at the Company's Web site, www.ferro.com, or upon request.

INVESTOR CONTACT

John B. Atkinson, Treasurer and Director,
Investor Relations
216-875-7155
e-mail: investor@ferro.com

ANNUAL MEETING

April 30, 2004, 8:00 a.m.
Executive Offices
Ferro Corporation
1000 Lakeside Avenue
Cleveland, Ohio 44114

EXECUTIVE OFFICES

Ferro Corporation
1000 Lakeside Avenue
Cleveland, Ohio 44114
216-641-8580

OPERATING locations

ASIA-PACIFIC

Australia
China
Indonesia
Japan
South Korea
Taiwan
Thailand

EUROPE

Belgium
France
Germany
Holland
Italy
Portugal
Spain
United Kingdom

NORTH AMERICA

Mexico
United States
California
Georgia
Illinois
Indiana
Louisiana
Ohio
New Jersey
New York
Pennsylvania
Texas

SOUTH AMERICA

Argentina
Brazil
Venezuela



FERRO CORPORATION
1000 LAKESIDE AVENUE
CLEVELAND, OH 44114

www.ferro.com